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Management Digest®

How Latin America faces its future

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How Philips competes around the world

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How "packaged explosives" do production jobs

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How managers can manage their advertising

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Management Digest.

THE BEST FROM 68 BUSINESS MAGAZINES

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Member, Audit Bureau of Circulation

NEW YORK CITY
MARCH 1958

The Readers Report . . .

News from Taiwan

Sir . . . We read with interest the article on the Japanese Productivity Center (MD Dec. '57,p14).

Your readers might like to know that the Advanced Management Program sponsored by our Center last June in Taiwan was the first of its kind ever held in China, and among the very first in Southeast Asia. It aroused great interest in business and industry, with 120 people attending, mostly business executives. The result was most gratifying.

SI CHIN KAO
Executive Sec'y
CHINA PRODUCTIVITY CENTER
TAIPEI, TAIWAN

More Stockholders

Sir . . . It was good to learn that MANAGEMENT DIGEST also believes that a wide shareowner base is necessary for sound industrial expansion in Latin American countries (MD Jan.p16). Unfortunately there is not yet a sufficient awareness of this need. The fact that you have treated the subject in a publication for executives abroad surely will contribute to better understanding.

It is always exciting to learn that instead of carrying a banner alone, you are actually part of a parade.

G. KEITH FUNSTON
President
NEW YORK STOCK EXCHANGE

Monroe Preferred

Sir . . . I noticed in the January issue where a photograph of a management consultant was shown in at least four or five different positions talking, so to say, to the reader (MD Jan.'58,p18). I do not think that the gentleman was of such an interesting appearance that valuable space should be taken to show not less than four or five versions of his countenance.

I would have thought that you could alternate the consultant's photos with some rather more attractive items, of which I am sure the United States is not very short—like Miss Marilyn Monroe, etc.

F. POLLAK
Chief Engineer
HAMWORTHY ENGINEERING LTD.
POOLE, ENGLAND

Satisfied Swiss

Sir . . . We would like to express our congratulations for the very interesting articles which appeared in MANAGEMENT DIGEST during the past year. It is a pleasure reading your magazine.

We are sending you a Swiss calendar of our company that we hope you will enjoy. Maybe we will have the chance of meeting you soon in Switzerland.

E. BLAESI
ALMACOA S.A.
ZURICH

● The handsome calendar is on our wall; we only wish the tickets to Switzerland were in our pocket now. Many thanks to Almacoa, and our pledge that MANAGEMENT DIGEST will try to earn another calendar in 1959.—EDITOR

Between Us

Sir . . . We have found in MANAGEMENT DIGEST a very important article entitled "What Makes a Salesman Successful" (MD Nov.'57,p31). We want to reproduce it in our house organ "Entre Nos" and therefore ask you to grant us your permission.

JORGE LALINDE G.
CABARRIA LTDA.
BOGOTA, COLOMBIA

Sir . . . It is with a great deal of interest that I have read the article "A Two-Way Street of Good Business" (MD Dec. '57,p19). Currently we are retained by 40 leading Australian manufacturers for the purpose of assisting them to formulate and carry out planned diversification and growth. In many instances we endeavor to negotiate licensing agreements with American and European companies who wish to extend their operations to Australia.

We publish a small house-journal and would deeply appreciate permission to reproduce the article to which I have referred.

J. G. S. RADCLIFFE
OVERSEAS RESEARCH BUREAU
MELBOURNE, AUSTRALIA

● A word about reprints: We receive many letters such as the two above. And we are delighted to cooperate. But we *do* ask readers and others to write to us before reprinting—it helps us to know what is of interest to subscribers, and it protects both the reprinter and MANAGEMENT DIGEST.—EDITOR

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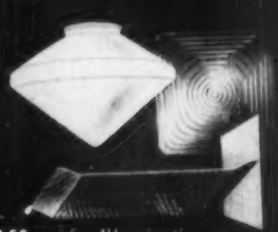

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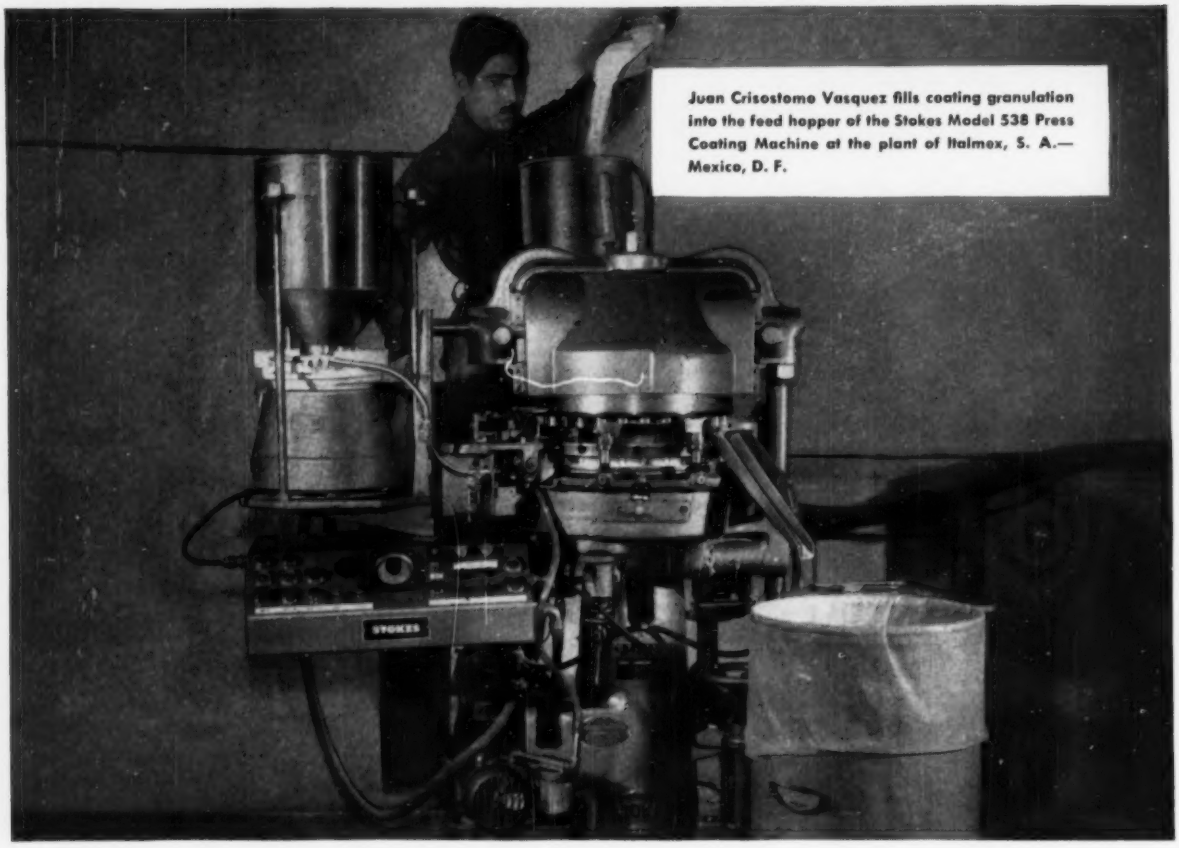

Juan Crisostomo Vasquez fills coating granulation into the feed hopper of the Stokes Model 538 Press Coating Machine at the plant of Italmex, S. A.—Mexico, D. F.

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STOKES

▶ WORLD TRENDS

EYES ON THE IDES OF MARCH

March is the month to watch. The course of the current American business recession should be more apparent.

Traditionally, March is the seasonal low point of the year. If commodity prices, unemployment, inventories, construction, auto output and sales stabilize during this month, the "bottom of the recession" may be at hand. Certainly, the official predictions of the Eisenhower Administration follow this line of thought.

In fact, the entire government budget is based on the hope of a quick end to the recession. And it is here that many economists begin to quarrel with the official line.

To be sure, none look for serious collapse—1929 style. But few see the recession ending quite so quickly. They warn businessmen not to swallow the cheery forecasts whole, and base their plans on a prompt up-swing.

In fact, they forecast a large budget deficit, and even a tax cut to stimulate business. Speaking privately, Administration sources say they will go along with such measures if necessary. And March may well be the month of decision.

If you are a gambling man, look at the National Bureau of Economic Research study of the past century's U.S. business cycles.

There were 24 cycles (counting from bottom to peak to bottom again). Now the economy is moving from peak to bottom of Number 25. By the National Bureau's reckoning, Number 25 peaked last July.

That would make the recession about eight months old. And it means to the Bureau (a private group with an excellent record of dating turns in the cycle) that the 100-year odds are now even that the recession will end by August; better than 2 to 1 that the low point will be reached by the end of 1958; and 5 to 1, by August 1959.

Still, many businessmen prefer to bet on the past performance of a horse than on that of a business cycle.

FOREIGN TRADE IN WASHINGTON

Now that a Yankee sputnik is roaming the skies, and a stronger defense program seems assured, U.S. Congressmen have more time to argue about economic policies. Indeed, March will probably see economics replace missiles as the central U.S. political issue.

Foreign economic policy may generate as much heat as domestic business. The battle lines are firmly drawn:

Resistance to freer trade is rising, and the President's program is in trouble. Congress will renew the trade agreements act—but not for the five years the President asks, and with some compromising amendments. Note that the petroleum-mineral bloc is getting more support for some quota protection, and the "Buy American" clause will stay in U.S. government contracts.

As for foreign aid, Eisenhower has a difficult selling job, and his $4,000-million request will be cut. However, there may well be greater Export-

Turn the page for more WORLD TRENDS

Import Bank lending, and more extraordinary loans (such as the recent help to India and France). The Administration also hopes to cut interest rates on foreign loans, and defer certain payments. Here, the White House will stress to Congress the necessity of "competing" with Soviet aid to less developed nations.

Note one long-awaited tariff reform: Simplified customs procedures for all but 16% of U.S. imports went into effect February 27. The new system will reduce headaches and uncertainty for foreign shippers and U.S. importers; in some cases, it will reduce tariffs slightly.

Meanwhile, experts are estimating the level of U.S. foreign trade in 1958. They appear optimistic.

Merchandise exports will come to just below $18,000-million, down from $19,300-million last year. Imports should keep above $12,600-million (compared to $13,200-million).

A cheerful note: The balance of payments experts suggest that the U.S.A.'s trading partners will be able to add to their gold and dollar reserves in 1958.

A further optimistic note comes from the Overseas Review of Barclay's Bank in London. After checking with its branches around the world, the Bank warns (in its January issue) against exaggerating the effects of a U.S. recession on other nations' economies. The U.S.A.'s relative importance as a buyer of imported commodities has declined in recent years, says the Bank. And while repercussions from an American recession are uncomfortable, it is reasonable to expect that they will be "limited both in scale and duration."

FUSION: PROBLEMS AND PROMISE

Every second, the sun "fuses" 600-million tons of hydrogen into 596-million tons of helium—and gives off the energy that sustains life in the solar system. The question: Did the British do the same thing in their laboratories at Harwell?

They are "90% sure" they did. That is the meaning behind the announcement by British and U.S. scientists about their progress in studying fusion.

But it does not mean that nuclear energy as we know it today will be obsolete 20 years from now, when uranium-fueled fission reactors will be producing power in many nations.

Here is where the scientists stand: Inspiring work has been done (in the U.S.A., Britain, and presumably Russia) toward peacefully duplicating the "fire" of the hydrogen bomb.

Last August, British researchers produced a powerful electric charge that raised the temperature of ionized deuterium (heavy hydrogen) to 5-million C. They are almost certain fusion was involved. The heat—500 times hotter than any known material can stand—was contained in a magnetic field.

The problems are huge. Science must find a way of raising temperatures to 400-million C. if the reaction is to become self-sustaining. And they must design equipment to contain such a temperature and apply its energy safely. Harnessing that energy—even experimentally—may be decades away.

But the promise is equally awesome. Compared to fission's uranium—hardly in unlimited supply, and with many disadvantages—the raw material for fusion is a basic ingredient of sea water. And there seems to be enough of it to sustain man's energy needs for the next thousand million years.

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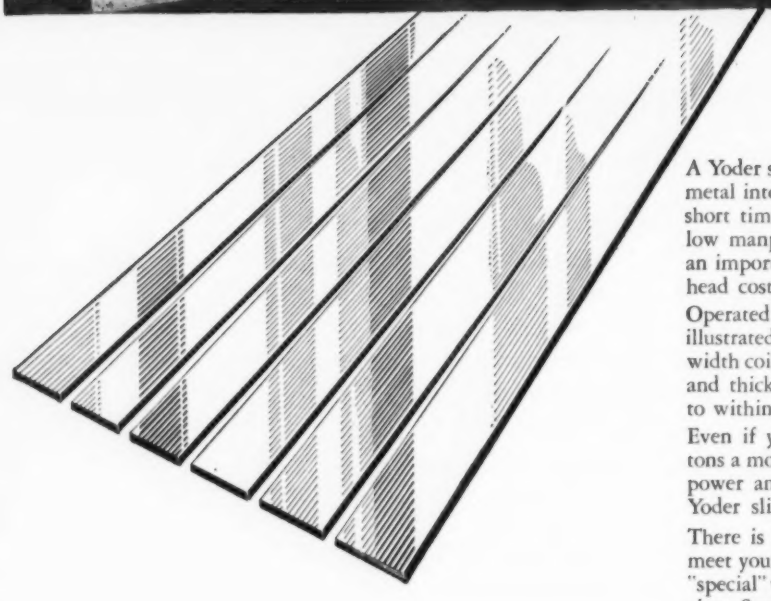

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Latin America Faces the Test

A time of transition—"between booms"—presents a stern challenge to Latin Americans.

But the long-term outlook glows with the promise of sturdy growth and rising trade.

THIS MONTH, the United Nations' Economic Commission for Latin America meets in Santiago, Chile. The meeting is supposed to focus on Latin America's future relations with the evolving European Common Market. But dominating the informal talk in the conference corridors will be Latin America's business problems here and now.

Sum up the situation in two words: "trouble" and "transition."

The chart on the next page shows that many of the 20 Republics are facing new difficulties on top of old ones as first-quarter 1958 ends. Perennial problems of inflation, foreign exchange shortages, towering budget deficits are now compounded by recession, and low prices of the things Latin Americans sell to the world.

Perhaps it is inevitable that 12 years of fairly sustained boom would come to an end. But that does not make the problems any more palatable. A time of transition, "between booms," is difficult for all, and more so for nations struggling to become industrialized when in fact they are agricultural.

Rarely does such a period present a clear-cut picture—especially in Latin America. Prosperity and poverty, expansion and recession, "belt-tightening" and "high living" exist side by side, and often in one country all at once. So the assessment of the present business outlook depends on your perspective.

Talk to United Nations economists, business people, government officials, as MANAGEMENT DIGEST did, and you find a two-part consensus.

—**Short-term:** Latin American business will reflect world conditions; that means a slowing down. ECLA economists suggest that 1958 will see little or no growth in the 20 Republics' gross product, and may well bring an absolute drop.

—**Longer-term:** Almost every observer looks for another period of growth based on Latin America's immense resources. They see opportunities for rising trade—with the U.S.A., with Europe, within Latin America itself.

How long the "transitional" period will be depends partly on the length of the business slow-down in the U.S.A. and Europe, partly on Latin America's own efforts to keep its internal house in order.

Some of the most irritating problems arising out of world business conditions center on trade.

The business recession in the U.S.A. has encouraged stronger protectionist sentiment. Tariffs on lead and zinc (possibly on copper), and quotas on petroleum and agricultural products, certainly won't be liberalized, and may well become more restrictive.

This makes those producers directly affected furious. But the trend—so far—may be more annoying than dangerous to Latin America. While some individual producers may be slightly hurt, most economists do not believe the total dollar volume of U.S. purchases will be affected by tariffs or quotas now in prospect. North America's needs of Latin America's products are great today; in another decade, they will swell enormously.

Still, Latin America seeks to diversify its trade—and Europe looms large in the planning. This is not lost on the Soviet Union, and Communist trade emissaries are bringing new offers of trade and aid to the Americas.

Few Latin Americans take very seriously the possibility of a large increase in their business with the Communists. Past dealings have worked out poorly. How seriously Moscow intends to do business remains to be seen.

More important to Latin America are the future implications of the European Common Market. ECLA is now preparing a sample study of the effects of the Market on the six basic commodities which Africa, Latin America's feared competitor, also produces—coffee, cacao, copper, cotton, sugar, bananas. Likely conclusions: In almost every case, the future promises a bigger market for Latin America, even though it may be a smaller slice of a larger pie.

Indeed, ECLA experts expect larger markets for fuels, minerals, tropical foods, coffee; an uncertain sugar situation; and dimmer prospects for meat and grains.

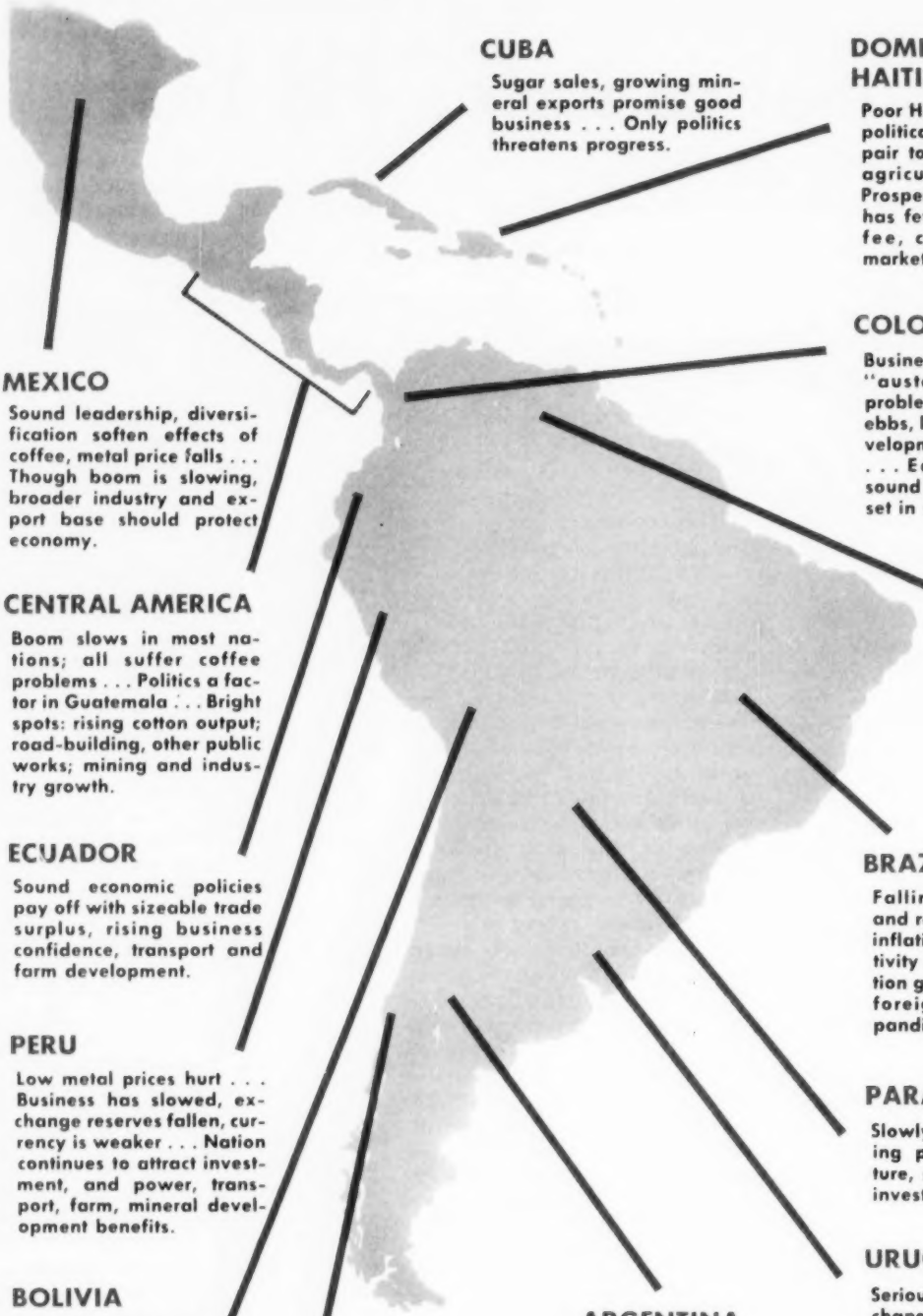
Closer to home, there is ECLA's concern with regional trade within Latin America. Experts emphasize that integration schemes, customs and payments unions, and "common markets" are many years away. Central American "integration" is further along, but it will be small in the total picture.

Broader plans call for a trade and customs union among southern South American nations, and possibly "common markets" for some goods. Here, ECLA economists will caution against common markets involving highly competitive industries, arguing for complementary rather than competitive arrangements among nations.

ECLA sees regional integration essential for three reasons: (1) to provide a much needed larger market for industrial materials and consumer goods; (2) to

continued on page 13

Latin America: Plenty of Problems



CUBA

Sugar sales, growing mineral exports promise good business . . . Only politics threatens progress.

DOMINICAN REP. HAITI

Poor Haiti, recovering from political upset, tries to repair tourist industry, raise agricultural exports . . . Prosperous Dominican Rep. has few problems as coffee, cacao, sugar find markets.

COLOMBIA

Business slowed by import "austerity" and coffee problem . . . But inflation ebbs, land and mineral development moving ahead . . . Economy basically sound once finances are set in order.

MEXICO

Sound leadership, diversification soften effects of coffee, metal price falls . . . Though boom is slowing, broader industry and export base should protect economy.

VENEZUELA

Still booming on a flood of oil; world recession has not hurt as yet . . . Construction, mining, industry continue to grow . . . Political uncertainty now a factor.

CENTRAL AMERICA

Boom slows in most nations; all suffer coffee problems . . . Politics a factor in Guatemala . . . Bright spots: rising cotton output; road-building, other public works; mining and industry growth.

BRAZIL

Falling export earnings and reserves; rising deficit, inflation, debt . . . Productivity lags behind population growth . . . Bright spots: foreign investment, expanding industrial base.

ECUADOR

Sound economic policies pay off with sizeable trade surplus, rising business confidence, transport and farm development.

PARAGUAY

Slowly—very slowly—making progress . . . Agriculture, small industry attract investment.

PERU

Low metal prices hurt . . . Business has slowed, exchange reserves fallen, currency is weaker . . . Nation continues to attract investment, and power, transport, farm, mineral development benefits.

URUGUAY

Serious trouble: critical exchange situation, exports dropping, meat industry in poor condition . . . Labor unrest, clouds outlook.

BOLIVIA

Foreign investment, oil, land development, price stability make for more hopeful outlook—despite low tin prices.

CHILE

Industry in doldrums as government tries to curb inflation . . . Imports continue tight . . . Much depends on higher copper price.

ARGENTINA

Convalescing slowly . . . Industry stagnates . . . Farm exports rise, but import needs rise faster . . . Labor is restless . . . Foreign investors await May elections—and new policies.

help absorb the huge labor migration from rural areas to crowded cities; and (3) to develop more efficient industry to substitute for imports.

But no integration schemes can work until internal economic problems in many nations are met. One of the unlucky aspects of the current drop in commodity prices is that it came, in the words of *The Economist*, just when "common sense and more liberal, more orthodox financial policies had begun to blossom out." In many nations the attack on inflation had become more concerted, and efforts have been made to free up rigid foreign exchange systems, to build up agriculture and other basics of the economy (MD, Mar. '57, p11).

Also, recent political developments suggest that more representative governments are evolving in many of the 20 Republics.

The effect of the business slowdown is to make these advances harder to achieve—in economic terms, and certainly politically.

Even in the best of times, Latin America's needs are almost beyond its capabilities. Population pressure is inexorable. Lower export earnings reduce money for fundamentals. Outside capital is not so readily available—a prolonged recession in the U.S.A. would cut down the flow of private capital of Latin America.

On the other hand, investment in Latin America seems a long term trend among North Americans, despite year-to-year ups and downs. Also, U.S. government officials, planning some $200-million in aid, loans, surplus commodity sales, military help for Latin America this year, say that severe setbacks could be met by extraordinary financial aid.

So the problem is one of wading through a transition period as best as possible. And even here, some observers see a small—if bitter—consolation. They say frankly that a slowing-down of over-all industrialization would not be a bad thing where development may have gone too fast, and limited to too few industries. Even if some marginal mines, coffee lands, or businesses have to close, in the end a more sturdy economic base, a better-balanced allocation of resources, could result. ●

Ripe for a Revolution —In Management

Organizing management men in Latin America is not easy, but the benefits are great.

HENRY B. SARGENT (above) is a man with two missions in his business life. One is to assure the sound and profitable growth of American & Foreign Power Co., of which he is president, in the 11 Latin American nations where it operates. The other is to start a "revolution" of scientific management throughout the Americas.

The two missions complement each other. A strong power company benefits the communities it serves. A strong community of managers cannot help but benefit the power company. But neither can be achieved easily.

"No manager," Sargent said recently, "is worthy of the name who lacks the integrity and courage to speak up and work for the principles in which he believes . . ."

Sargent practices what he preaches. As president of the International Committee for Scientific Management's Pan-American Council (PACCIOS), he talks up the responsibility of modern management from his New York office to the southern tip of the Foreign Power network 10,700 kilometers away. He regards PACCIOS, and in a sense himself, as a "catalyst" of the management revolution.

Already plans are laid for PACCIOS' Second Inter-American Management Conference, scheduled for November in a West Virginia resort center. PACCIOS expects executives from many of the Western Hemisphere nations to come to the U.S.A. for the meeting. With one conference under their belts, PACCIOS officials are optimistic.

The first Inter-American Management Conference (MD Jan.'57, p15) was held in Santiago, Chile, with 600 delegates attending. It was no surprise that Chile was the site—because Chile is one Latin American nation where a strong management organization is taking hold. The activities of ICARE (Instituto Chileno de Administracion Racional de Empresas), PACCIOS officials believe, could serve as a model for management organization in Latin America.

The story starts with the International Committee for Scientific Management ("CIOS," after its French initials), set up in the 1920s to promote management training around the world. Under the impact of the postwar productivity movement, and the appearance of the professional manager in many lands, CIOS grew, and now has affiliates in 29 nations.

But CIOS suffered from long distances. To make their own activity more effective, European affiliates organized a regional subgroup. Soon it seemed like a good idea to set up a Western Hemisphere group, bringing U. S., Canadian, and Latin American members into closer contact. (Today there is a move to establish an Asian Council, including Japanese, Indian, Philippine, Australian, and New Zealand managers.)

CIOS' Pan-American Council was organized in 1954 with Dr. Moacyr Alvaro, of Brazil's "IDORT," as first president. Founding members included the Canadian Management Council, Chile's ICARE, IDORT, and the U.S.A.'s Council for International Progress in Management (CIPM).

Today PACCIOS has five Latin

American members, and hopes for more by the time November's Congress meets.

It was one of Sargent's associates that was the "catalyst" for ICARE. Joseph J. Cussen, president of the Foreign Power subsidiary in Santiago, believed that he and his Chilean colleagues could benefit from an organization of top busines executives, working together to promote management training, and making their views on business and economic problems known to government. On a trip to New York, Cussen talked with Harold Smiddy, a General Electric Co. vice president and an enthusiastic management leader.

Smiddy suggested how it might be done, and Cussen returned to find support for his idea from several younger Chilean executives. Together with Luis Marty (now vice president of PACCIOS), Raul Saez (now president of ICARE), Eugenio Heiremans, and others, Cussen rounded up 30 businessmen. The U. S. A. affiliate, CIPM, sent down an expert to help; later several U. S. business leaders and educators went to Chile (aided by grants from the U. S. government's International Cooperation Administration) to launch training programs.

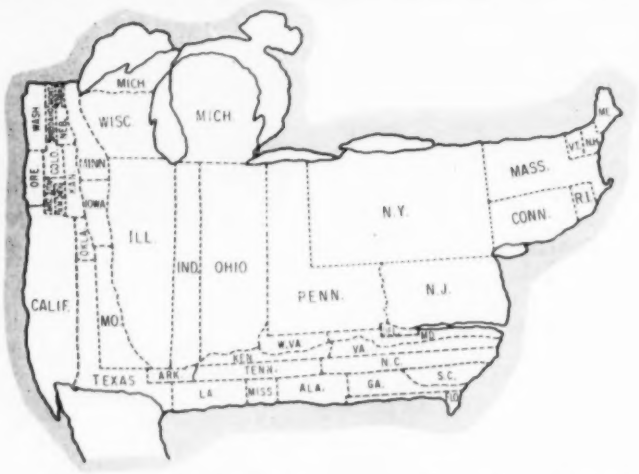
Now ICARE is a live organization of some 225 industrial members. Chilean executives are regularly attending seminars, and discussing management problems in business, government, and educational circles. ICARE is being asked to establish courses in agricultural management, launch projects in business schools, etc.

Chile was "ripe" for such an organization, PACCIOS people believe. And so are other nations. But organizing an active group is easier said than done.

It requires a spark—possibly from an outsider, certainly from businessmen not only interested in better management but also dedicated to the idea that management men have a public responsibility. Top executives are required—at the director or president level. These men must set aside enough time to devote to the projects and they must have patience: Years of struggling on thin finances were necessary before now-powerful groups like the American Management Assn. got on their feet.

That struggle is going on right now in several Latin American nations. In Peru, Carlos Vidal, a South American executive of International Business Machines Corp., has helped organize Instituto Peruano de Administracion de Empresas, and bring it into PACCIOS. In Argentina, Instituto Argentino de Relaciones Industriales is the PACCIOS member, but it is essentially a personnel relations organization, and does not have the programs in advanced management (or the support from a representative group of top managers) that are essential. The same situation generally holds true with Brazil's IDORT.

PACCIOS officials note that efforts are being made in Cuba, Colombia, Venezuela, and Guatemala to organize associations. And the U.S.A.'s CIPM is sending business experts to Costa Rica, Panama, and Jamaica, which may result in management organizations. ●



Salesman's View of the U.S.

THERE are some American businessmen—to say nothing of many suppliers and customers overseas—who have difficulty realizing that the world's largest marketplace is, in fact, a collection of marketplaces.

That may be the reason why Russell T. Gray Inc., a Chicago industrial advertising agency, goes to the trouble of preparing the map above. It shows the relation of each state to the other 47 in terms of value added by manufacture to industrial products.

Thus New Jersey, ranking 45th in size, bulks large because of its heavy concentration of industry. But sprawling Montana, third largest state, almost disappears.

This industrial portrait is always changing; Gray has been bringing it up to date regularly. In the most recent seven-year period (1947-1955) the Pacific Coast states increased manufacturing output by 104%. The move of industry to the South showed up in a rise in value-added-by-manufacture of 72%.

However large the percentage gains, these fast-growing areas shrink besides the powerful industrial concentration in the Middle Atlantic and Middle West states. These may grow at a slower pace, but their expansion adds many more thousands of millions of dollars to the nation's output.

Moral for foreign suppliers: Concentrate your selling resources where the largest industrial markets are; they will keep growing at a good pace. But do not overlook the fast-expanding markets in the West and South.

A Challenge to America

Fifty of the world's leading "thinkers" were asked to name the U.S.A.'s greatest future problem.

AMERICANS ENTERED 1958 with a clamor of challenges ringing in their ears—from scientists, from soldiers, from Mr. Khrushchev, from Congressmen, from the President himself. But perhaps the most thoughtful of the challenges came in answer to this question:

"What is the most important economic problem to be faced by the U. S. A. in the next 20 years?"

The question was posed by the Committee for Economic Development, a non-profit research organization supported by U. S. businessmen. To celebrate its 15th anniversary, CED conducted an open contest for ideas on that question. For good measure, it asked 50 of the world's leading "thinkers" to contribute their own answers.

Most of the papers were provocative, many showed anxious, honest thought; a few presented fascinating fresh themes. But, not surprisingly, two thirds settled on three major problems: (1) world trade, aid, development; (2) inflation; and (3) urban development.

"Capitalism has not yet been fully able to meet the Communist challenge. The task of fitting it to do so in the underdeveloped countries is the most important U. S. problem . . ."

Thus spoke Raul Prebisch, Latin American economist. He was echoed by 17 other contributors. Jean Monnet of France felt that the rich industrial countries—including Russia—must band together to ease tensions between themselves and poorer nations. "I think it will be technically and psychologically impossible," said Monnet, "for men to penetrate space carrying with them anachronistic earthbound quarrels."

What should the U. S. A. do? Lester Pearson, Canada's Nobel prize-winning statesman, saw the U. S. A.'s problem "arising from its growing reluctance to rely on international specialization and trade." The University of Chicago's Frank Knight declared bluntly that "the chief economic sin of business is the absurd demand for tariff protection."

Julian Huxley, Fellow of the Royal Society in London, remarked that the case of Israel showed that living standards could rise—despite tremendous population increase—with aid from abroad. Robert Marjolin, young French economist, urged rapid intervention to assure the success of India's development program. And W. Arthur Lewis of Manchester University in England insisted that private investment by the Americans or anyone else cannot do the job alone. Poorer nations, said Lewis, need money for railways, ports, power, roads, schools. Private enterprise cannot do this, and, "in a sense, the biggest struggle of the next decade is to get American Senators to realize this."

The general theme seemed to be that Americans as a nation do not have an adequate foreign aid program, that they do not realize how important it is, that they are trying to profit in world trade with policies determined by old-fashioned special interests.

"Stabilization of price levels is the primary long-range economic problem because solutions to other important problems depend mainly on maintaining a dollar of dependable value."

So spoke Neil Jacoby, economist and former Presidential adviser. He believed, as did some others, that inflation was dangerous, immoral—and very difficult to fight. Clarence Randall, steel executive and also an Eisenhower adviser, characterized the prime U. S. problem as the "all but irresistible pressure . . . upon industry to pay wages not supported by equivalent increases in total product."

More striking, perhaps, were the views of those who did not feel that inflation is a very serious American problem. It is not—because, as Alvin Hansen of Harvard University pointed out, the U. S. A. does not have any "serious structural bottlenecks—the bane of all inflation-sensitive economies."

The general theme: Inflation will be a headache, but—like the common cold—it is easier to learn to live with than to cure.

"The tidal wave of population will throw up economic, fiscal and social problems the magnitude of which we have scarcely yet caught a glimmer."

That was Hansen again, seconded by some others, pointing to urbanization as America's prime problem. Barbara Ward (Lady Jackson), the distinguished British writer, touched the same problem by citing the annual gap of $9,000-million or so in "social capital," concluding that democracy has not yet reached the decision to spend the necessary amount on schools, hospitals, other municipal projects.

The general theme: Face up to urban redevelopment or face the consequences in urban bankruptcy, social disorder, economic chaos.

One of the most intriguing ideas advanced to CED is that the U. S. A. may become ill from its own great prosperity. Sociologist David Riesman detected a growing "wantlessness" among Americans: "Contrary to the image envious non-Americans have, there is little ferocious desire for things for their own sake, let alone money for its own sake."

Roy Harrod of Oxford University picked up the same theme. It is "fallacious," said Harrod, to say that the needs or desires of men are unlimited, and that there is no "satiation point." It is only for a small, highly-educated minority that there is no satiation. Perhaps, Harrod continued, the "economic struggle" of Americans is almost over. Then what will be the purpose of their existence?

Kenneth Boulding, a University of Michigan economist, bravely picked the problem of defense. He believes that the system of national defense in the world has finally broken down. The only answer: Total, universal, policed disarmament before the great duopoly of modern times—the U. S. A. and U. S. S. R.—breaks down, as all duopolies must in the end. ●

Come to the Fair . . .

. . . if you plan to travel in 1958. Exhibition-going is a good way to keep up with what is new, and can lead to profitable business opportunities. The list below is a sampling; you should check further about other fairs, and to confirm the dates.

(➧ denotes fairs of widest general interest)

Afghanistan
Jeshyn Internat'l Fair
Kabul, Aug 23-29

Australia
Victorian State Internat'l Fair
Melbourne, July 21-Aug 2

Austria
Textile Samples Fair
Dornbirn, Aug 1-10
Internat'l Fall Fair
Vienna, Sept 7-14
Graz Southeast Fair
Graz, Sept 27-Oct 5

Belgium
➧ Universal Internat'l Exhib.
Brussels, April 17-Oct 19
Internat'l Trade Fair
Liege, May 10-26
Internat'l Inventors Show
Brussels, June 6-29
Internat'l Trade Fair
Ghent, Sept 6-21

Britain
Factory Equipment Exhib.
London, April 14-19
Instruments, Electronics, Automation Exhib.
London, April 16-25
Chemical and Petroleum Engineering Exhib.
London, June 18-28
➧ British Fair of Industry and Commerce
Manchester, July 4-19
Commercial Motor Exhib.
London, Sept. 26-Oct 4
Internat'l Textile Machinery
Manchester, Oct 15-25

Canada
Internat'l Trade Fair
Vancouver, May 1-10
Internat'l Trade Fair
Montreal, May 30-June 8
➧ Canadian National Exhib.
Toronto, Aug 22-Sept 6

Colombia
Internat'l Trade Fair
Bogota, Nov 22-Dec 8

Denmark
Internat'l Copenhagen Fair
Copenhagen, March 21-30

Egypt
Fair for Egyptian Cotton
Cairo, March

Finland
Internat'l Motor Exhib.
Helsinki, May 9-18

France
➧ Internat"l Trade Fair
Lyon, April 12-21
Internat'l Trade Fair
Lille, April 19-May 4
Internat'l Trade Fair
Paris, May 10-26
European Fair
Strasbourg, Sept 6-21
Internat'l Trade Fair
Marseilles, Sept 13-29
Internat'l Trade Fair
Metz, Sept 27-Oct 13

Germany
Internat'l Gastronomy Fair
Hamburg, March 6-12
➧ German Industries Fair
Hanover, April 27-May 6
Internat'l Trade Fair
Saarbrucken, April 18-May 1
Printing and Paper Fair
Duesseldorf, May 3-16
German Handicrafts Fair
Munich, May 15-26
Frankfurt Internat'l Fair
Frankfurt, Sept 7-11
➧ Leipzig Fall Fair
Leipzig, Sept 7-14
German Industries' Exhib.
Berlin, Sept 13-28

Greece
Internat'l Fair of Thessaloniki
Salonika, Sept 7-28

India
Traveling "Solo" Exhibit sponsored by U. S. A.
Bombay, Apr 15-May 15
"Solo" Exhibit
Calcutta, Nov 15-Dec 15

Iraq
Agricultural, Industrial Fair
Baghdad, Oct. 15 (tentative)

Italy
➧ Internat'l Samples Fair
Milan, April 12-27
Internat'l Handicraft Fair
Florence, April 24-May 15
Internat'l Electronic, Nuclear Energy Exhibit
Rome, May 10-25
Internat'l Mediterranean Fair
Palermo, May 24-June 10
Internat'l Trade Fair
Trieste, June 22-July 6
Internat'l Levant Fair
Bari, Sept 7-25
Internat'l Technical Exposition
Turin, Sept 25-Oct 5

Japan
Trade, Industrial Fair
Moji City, March 20-May 25
➧ Japan Internat'l Trade Fair
Osaka, April 12-27
Hokkaido Grand Exhib.
Hokkaido, July 5-Aug 31

Laos
That Luang Festival
Vientiane, November

Luxembourg
Internat'l Trade Fair
Luxembourg, May 24-June 8

Morocco
Casablanca Internat'l Trade Fair
Casablanca, April 25-May 11

Netherlands
Internat'l Sugar Exhib.
Amsterdam, April 22-30
➧ Internat'l Trade Fair
Utrecht, Sept 2-11

Poland
➧ Internat'l Trade Fair
Poznan, June 8-22

Spain
Internat'l Samples Fair
Valencia, May 1-20

Internat'l Samples Fair
Barcelona, June 1-20

Sweden

Internat'l Swedish Industries Fair
Gothenburg, May 10-18
St. Erik's Fair
Stockholm, Aug 30-Sept 14

Switzerland

Internat'l Motor Show
Geneva, March 13-23
Swiss Import Exhibition
Zurich, May 30-June 8
Atoms for Peace, Exhib.
Geneva, Sept 1-14

Thailand

Constitution Fair
Bangkok, December

Tunisia

Internat'l Fair
Tunis, Oct 18-Nov 2

Turkey

Internat'l Trade Fair
Izmir, Aug 20-Sept 20

Union of South Africa

Rand Easter Show, Indust'l Exposition
Johannesburg, March 27-April 7

United States

Washington State Internat'l Trade Fair
Seattle, April 11-20
Internat'l Home Building Exposition
New York, April 19-27
Festival of Foods
New York, April 23-27
World Trade Fair
New York, May 7-17
National Packaging Exposition
New York, May 26-30
Internat'l-American Food Congress Exhibit
Miami, June 8-12
Internat'l Automation Exposition
New York, June 9-13
Home Furnishings Market
Chicago, June 16-26
Instrument-Automation Conference Exhibit
Philadelphia, Sept 15-19

Yugoslavia

Internat'l Trade Fair
Zagreb, April 11-20
Internat'l Trade Fair
Zagreb, Sept 6-21

Management Men at Work

Grundig: Building A New Empire

MAX GRUNDIG is one of the postwar wonders of Germany. A dedicated man of 50, he has built a commercial empire in ten years out of his own energy and a keen sense of what the public wants.

Before the war, Grundig ran a small radio shop in Furth, near Nuremberg. Later he produced signaling equipment parts for Germany's air force.

When hostilities ended, radios were luxuries in Germany, and their manufacture was forbidden. Grundig hit on the idea of making do-it-yourself radio kits. His profits later went into making complete radio sets.

Today Grundig owns Europe's largest radio factory. His empire consists of seven factories, all in Bavaria. Besides radios, they make tape recorders, television sets, measuring instruments, dictaphones, and cabinets for his instruments.

Grundig is constantly aiming at the future—keeping a sharp eye on the times and the needs of the public. A millionaire, he still opens all the firm's mail, and reads a substantial part of it.

Grundig's vision is unlimited. He employs 500 scientists and technicians wholly on research—delving into such fields as automation, electronic devices, color and portable television, office machines. (*Economist, Jan.* 11, *p* 123)

Schlimmer: Saving An Old Empire

JACOBUS W. SCHLIMMER, 74 years old, has a job cut out for him. He is president of Borneo Sumatra Handel Maatschappij—known as Borsumij—a large Dutch trading firm operating in Indonesia. Threatened by Indonesian nationalism and extremism, he is struggling to find a stopgap way of doing business with the Indonesians and at the same time move Borsumij's business into more peaceful areas.

Borsumij's 41 offices in the islands are still open for business. But Indonesia's President Soekarno has made it clear he doesn't want them there.

Schlimmer saw the writing on the wall some years ago. In 1949 he began transferring capital to Holland and other countries.

Schlimmer has watched his firm grow from a tea-and-coffee trading company, founded by his father 75 years ago, to a global power—a manufacturer of bicycles and drugs in Indonesia, an agent for U.S. and European firms.

Schlimmer is hanging on in Indonesia, using every trick of the trade to placate nationalists and at the same time make a modicum of profit. Meanwhile, he is moving ahead in other areas: among other things, he has invested in a trading firm doing a substantial business in East Africa. (*Business Week, Jan.* 11, *p* 90)

How Philips Builds Its Empire

PIETER OTTEN—here getting a Brazilian medal—heads Philips empire.

FREDERICK J. PHILIPS, son of a co-founder, is second in command.

DR. ANTON J. GUEPIN, a legal expert, oversees the corporate structure.

Philips of Eindhoven does 95% of its business outside of its tiny home market in Holland. Its complex and far-flung empire is backed by prolific research laboratories, some unique management concepts, and "Dutch stubbornness."

How did N. V. Philips Gloeilampenfabrieken of Eindhoven, Netherlands, become such a world power in the fiercely competitive electrical industry?

Last year Philips outpaced most of its world competitors with a sales growth of 19.1%. And out of its gross sales of $842-million, 5% came from the tiny Dutch market, 95% from Philips' several hundred factories in 32 countries and sales agents in the other countries of the free world, according to a recent report in *Business Week*.

People who know Philips best say its success is due to "initiative, drive, and Dutch stubbornness." More specifically, it is often said that Philips' world-wide success is due to its emphasis on research and its skill in adapting research and management techniques to conditions anywhere in the world.

In Eindhoven, Philips is known for its good wages, a comprehensive social security plan, and profit sharing (since 1912). Eindhoven has never had a major strike.

In a word, Philips is best known for good management. Its selection of managers through its own Institute of Industrial Relations has been called "shockingly modern." And these Eindhoven men carry the Philips reputation everywhere.

In the past five years, Philips has poured roughly $250-million into new plants and research laboratories around the globe.

Right now, it is putting up a $380,000 plant in India. In Western Europe, it just opened a huge phonograph record plant and the first stage of a research center at Hamburg, West Germany. In Latin America—Philips' second market after Europe—the company is building or planning plants in Mexico, Colombia, Argentina, and Chile.

And as Philips extends its empire, it broadens its management concept, its range of products, and its use of research.

I. Control from the Top

On the management side, Anton F. Philips—who started making light bulbs in with his scientifically-minded brother Gerard—ran things with an iron hand until close to his death in 1951. Since the end of World War II, Philips has been controlled by a Board of Management with an inner Presidium. Under Pieter F. S. Otten, Anton's son-in-law, the Presidium has delegated more independent power to the company's 11 industrial divisions and to managers in the field.

F. J. Philips (called "Frits"), son of a co-founder, is second in command of Philips expansion. And Dr. Anton J. Guepin is the legal expert who oversees Philips' intricate complex of trusts, holding companies, subsidiaries, subsidiaries of subsidiaries—and all important licensing arrangements. (In 1939, just before World War II, Philips moved its legal home to Curacao in the Netherlands West Indies, and set up trusts to handle its property in Britain and the Western Hemisphere.)

The "mother" of them all is a holding company called N. V. Gemeenschappelijk Bezit van Aandeelen Philips' Gloeilampenfabrieken ("Bezit" for short). Netherlanders own 65% of the stock in Bezit, and "priority shares"—which carry the power to nominate members of the board—are held by top management. Thus control is tightly guarded.

In building its empire, Philips has often given the impression it is only part owner of subsidiaries and offshoots. But in practically every case it holds 100% control. In Britain, $60-million of Phil-

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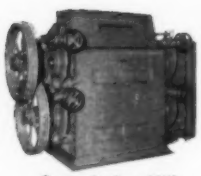
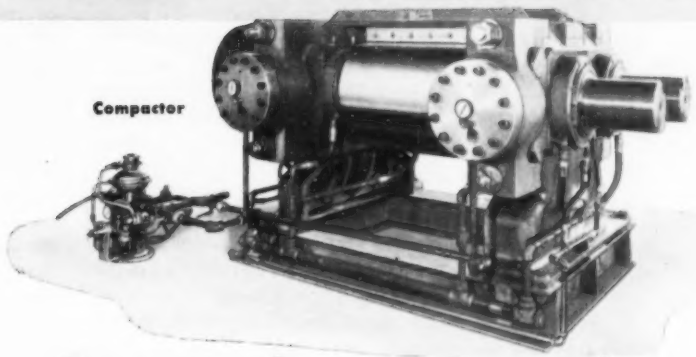


Granulating Mill

Vibrating Screen

Gyratory Screen



Compactor

Convert loss into profit with Allis-Chalmers new compacting process

By-product material from many original processes, often discarded as waste fines, can be densified into slabs or flakes in the new Allis-Chalmers compacting mill. Agglomerated product is then granulated in the roller-type mill and separated in a vibrating or a gyratory screen. This mechanical conversion of by-product material into a usable product changes loss into additional profits more economically than any other method.

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CHILE—Santiago.
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COSTA RICA—San José.
CUBA—Havana.
DOMINICAN REPUBLIC—Ciudad Trujillo.
ECUADOR—Quito.
EL SALVADOR—San Salvador.
ENGLAND—London.
FINLAND—Helsinki.
FRANCE—Paris.
GREECE—Athens.
GUADELOUPE—Pointe-à-Pitre.
GUATEMALA—Guatemala City.
HAITI—Port-au-Prince.
HAWAII—Honolulu, Hilo.
HONG KONG—Hong Kong.
ICELAND—Reykjavik.
INDIA—Bombay, Calcutta.
IRAN—Teheran.
IRAQ—Baghdad.
ISRAEL—Tel-Aviv.
ITALY—Milan.
JAMAICA—Kingston.
JAPAN—Osaka, Tokyo.
KENYA—Nairobi.
MALAYA—Kuala Lumpur, Ipoh, Kota Bharu, Penang, Malacca, Seremban, Kuantan.
MEXICO—Guadalajara, Mexico City, Monterrey.
NETHERLANDS—Amsterdam.
NEW ZEALAND—Wellington, Auckland.
NICARAGUA—Managua.
NORWAY—Oslo.
PAKISTAN—Karachi.
PANAMA—Panamá City.
PARAGUAY—Asunción.
PERU—Lima.
PORTUGAL—Lisbon.
PUERTO RICO—Ponce, San Juan.
REPUBLIC OF INDONESIA—Djakarta, Surabaja, Medan, Palembang, Bandoeng, Semarang, Makassar.
REPUBLIC OF THE PHILIPPINES—Bacalod City, Cebú, Manila, Negros Occidental.
SARAWAK—Kuching, Sibu, Miri.
SINGAPORE—Singapore.
SOUTH AFRICA—Johannesburg.
SPAIN—Madrid.
SURINAM—Nieuw-Nickerie, Paramaribo.
SWEDEN—Stockholm.
TAIWAN (FORMOSA)—Taipei.
TANGANYIKA—Dar es Salaam.
THAILAND—Bangkok.
TRINIDAD—Port of Spain.
TURKEY—Istanbul.
URUGUAY—Montevideo.
VENEZUELA—Caracas.

"Besides good management, research is probably the secret of Philips' success . . . Roughly 7,500 new patents are registered each year."

ips' $90-million British business comes from Mullard Ltd., a wholly owned holding company which, in turn, owns some 18 plants. (Actually, it's more complicated than that. Mullard is fully owned by Philips Radio Equipment, Ltd. which is in turn owned by several other firms in the hierarchy.)

Today Mullard controls about 60% of the electronic-tube market and around 40% of the television tube market in Britain. Mullard is said to have more autonomy than any other Philips operation—so much, in fact, that some observers believe Eindhoven is struggling to reassert its authority.

In Germany, Philips operates through Alldelphi, which controls 12 plants employing 12,000 workers. Sales have increased fourfold in the past eight years. The Philips name is well known and respected in Germany. But characteristically, few people in Hamburg know that Roentgen-Mueller, the X-ray equipment maker in their city, is Philips-owned.

Philips is moving slowly in the U.S.A., and growing by "acting like a small company" (for one thing, Philips is wary of U.S. antitrust laws). Through North American Philips, it is buying up small specialized companies, mostly in the electronics field. NAP also does a thriving business in importing Philips products, exporting U.S. products made by others and negotiating patent licenses.

II. Research Is the Key

Besides good management, research is probably the secret of Philips' success. Philips rates itself the second ranking research company in the electronics-electrical world. First, according to Philips' ranking, is the U.S.A.'s Western Electric Co.

In its Eindhoven central laboratories Philips invents patentable products almost on an assembly-line basis—roughly 7,500 new patents are registered each year. The company has financed a technical secondary school to feed bright young technicians into its research establishment.

Worldwide, Philips employs 3,000 researchers with doctorate degrees. And the inventiveness of the 1,500 scientists working in Eindhoven has been charted so carefully that the company knows they begin to lose their "productivity" at age 29.

Research into ultraviolet lamp techniques led Philips into setting up a pharmaceutical division to produce drugs. Work in the acoustical field led to stereophonic sound systems. The company moved on from high-fidelity phonograph equipment into the production of phonograph records.

In the nuclear energy field, Philips was experimenting with control systems even before World War II. Instruments make up roughly 25% of the cost of a reactor, and Philips owns some of the most basic patents of the atomic age.

As for missiles, Philips recently bought a majority interest in a Dutch company that makes fire control and radar systems—a good company to own considering the NATO agreement to increase production of missiles.

But throughout its expansion, Philips biggest emphasis was on the improvement of radio and television tubes and sets. (Mullard, for instance, pioneered in the all-glass tube, and has developed a sales-stimulating "circuit service" for manufacturers). Philips has captured more than half the world-wide market—excluding the U.S.A. —for electronic and picture tubes.

III. Flair for Publicity

Philips' flair for publicity and salesmanship is unusual for such a research-minded European company, particularly one that is so secretive in many matters.

This flair is shown by the Philips sales manager in Germany who gave distributors copies of *How To Win Friends and Influence People* by Dale Carnegie (America's most successful salesman of "personal success" formulas).

It is shown by the glass, neon-lit tower in Hamburg—a popular tourist attraction—which was presented by Philips to the city, and promptly named Philips Turm.

It is evident, too, when a company official says the Philips phonograph record business, while not a highly profitable operation in the usual sense, "earns bags of gold—in publicity".

But perhaps the best demonstration was Chairman Pieter Otten's visit to Brazil last October. Accompanied by Dr. Guepin and other top assistants, Otten toured company plants, visited mayors, governors, industrial leaders, bank officials, and even managed to take in the tourist attractions. There were huge receptions in Sao Paulo and Rio; and President Kubitschek honored Otten and M. C. Van Agt, a retired Philips pioneer in Brazil, with the order of Cruzeiro do Sul, Brazil's highest award for civilians.

As a measure of the tour's success, Brazilian papers carried 33 separate stories on how the top men of Philips "made a special trip to Brazil to see us."

IV. Brazilians Have a Word

Philips, of course, has played an important role in Brazil's industrial development. And its Brazilian success perhaps makes a better showcase of its methods than its success in Europe, where Philips is more "at home."

Brazilians say that Philips has "jeito"—the certain something that makes the difference between success and failure in Brazil (the nearest English equivalent is probably "knack" or "know-how").

Philips senior managers in Brazil are Netherlanders—but Netherlanders with a difference. When they go to Brazil, most expect to stay. This is shown by the lack of a "Dutch colony," by the number of Dutch who marry Brazilians and the ones who stay in Brazil after retirement. The Dutch, of course, are adept at languages: Fluent Portuguese and Spanish, English, and at least some French and German is the rule among the Philips men in Brazil.

Philips leaves nothing to chance in its operations. In Brazil, there is a staff of 65 working on research —not the basic "breakthrough" type, but on how to make products that fit the Brazilian market. Everything is taken into account:

language, education, climate, history, and customs. There is even an economics department that keeps track of how Latin American development, the European common market, etc. will affect Brazil's future. (Philips experts say they could profitably export from Brazil with a better break in the currency exchange situation).

Philips' resident architect in Brazil has made a special study of Brazilian architects in order to capture the right "feeling" with his buildings.

Technicians say that Philips' top-quality, expensive radio phonographs are made in Brazil—on the theory that Brazilians have fewer opportunities to go to concerts and the theatre, and are thus more apt to buy better home equipment.

It is standard Philips practice to adapt such products in the field from basic circuits supplied from Eindhoven. This policy seems to work well with consumer goods everywhere. It also works with special communications equipment in Brazil, where competition is not yet a decisive factor. (On the other hand, some observers say this policy is the reason for Philips' failure to succeed in the special communications field in Britain.)

Philips now makes medical equipment, cinema equipment, high-frequency telecommunications apparatus, flight-control and sonar equipment in Brazil—with only a few imported components. Its newest plant turns out glass and light bulbs. Others make radio, high-fidelity, TV.

Still others—partly or fully controlled—make special parts and components exclusively for Philips. It is Philips policy to be as self-sufficient as possible in parts and components.

Philips' adaptability overseas may be further explained by its policy of designing its own production machines. A piece of equipment used in Brazil, for instance, may have much lower production capacity than comparable US-made machinery—but in Brazil it is used at its maximum capacity.

And the Philips researchers—in Brazil and Eindhoven—stay busy finding ways to improve productivity. As an example, new attachments for light bulb machines recently raised production from 2,700 lamps per hour to 3,400. ●

In Managment

● **$23,495 has been awarded** to an Eastman Kodak Co. (U. S. A.) machine operator for suggesting a more efficient way to produce camera components. It is believed to be one of the highest awards ever made for an employee's idea.

● **HARVARD BUSINESS SCHOOL is filming some of its famous case histories** of business problems, which are now used in executive training around the world. Harvard has 25,000 case histories on file—but not all (financial problems, for instance) are suitable for filming.

● **INDUSTRY-WIDE STANDARDS for tools, materials, and components** are winning more support, according to a study by the U. S. A.'s National Industrial Conference Board. Most of the standardization is being done by private technical organizations.

Some of the advantages of standardization: longer production runs, simpler tooling, better quality control, and less inventory

● **ELECTRONIC GIANT recently installed in a West German mail order house** is capable of handling 100,000 orders a day. The firm, Quelle Versandhaus, sells about 15,000 different items.

● **LEASING OF CAPITAL GOODS is on the increase too,** reports the U. S. A.'s Foundation for Management Research. Leasing is most popular in industries with a high ratio of fixed assets to tangible net worth—such as machine shops and foundries.

● **BRITISH GIRLS are being encouraged to study** technical and science subjects in secondary schools, in a long-range effort to fill the need for technicians in British industry. The experiment—sponsored by the government—is reported successful so far.

"Benevolent Autocracy?"

Dr. Robert N. McMurry (above) is a management consultant who says top management pays a lot of lip service to "democratic management"—and using all levels of employees to set policies and make decisions. But the democratic system of management is seldom tried and still more seldom works, comments McMurry, writing in the *Harvard Business Review.*

Most top men do not want democratic management, McMurry insists, because they are "more likely to be hard-driving, egocentric entrepreneurs who have come up outside the business, in careers where they have had to keep the power in their own hands; or they may be veterans and victors in the give-and-take, no-quarter infighting for positions of power."

—"Bureaucratic traditions" in most companies produce security-seeking middle management men, who make excellent subordinates but poor decision makers.

—Even so-called "minor" decisions can have a devastating effect if made incorrectly.

—Many supervisors care too little about their job or company to be really constructive.

(For the answers of a "democratic" manager, see MD, Feb., p22)

Instead of participative management, McMurry proposes what he calls "benevolent autocracy." Here the top man would still stress the desirability of "humanistic" management, but he would remain undeniably the strong top man, while all jobs and relationships would rigidly structured. (*Business Week,* Jan. 11, p56)

Each day, the company president faces problems involving finance, production, competition—and people. This last—decisions on human relations—is what causes most of the . . .

Headaches on the Top Floor

Digested from THE MANAGEMENT REVIEW, Jan., p4

LIKE THE CAPTAIN of a ship, the company president stands alone. His opportunity is that he can make final decisions. His burden—the opposite face of the same coin—is that he can ask no one to decide these things for him.

Studies and seminars of the American Management Association show that the chief concern of a company president is with problems of human relations. He daily faces up to a wide variety of business problems, involving production, finance, cost, and competition. But these normally can be reduced to simple determinants, capable of being solved by expert advice.

Human problems are both more complex and elusive. They involve the aspirations, talents, and emotions of men—including those of the president himself. He must find and organize a qualified team of executives, adjudicate their squabbles, inspire their loyalty, maintain a balance between human and business motives.

As part of a recent survey, the AMA got answers from 335 U. S. company presidents to three questions in this field: (1) What is the most pressing personal problem in your day-to-day business relationships? (2) Can you give an example of a human relations problem you faced in your work recently and how it was solved? (3) What factor in your training and experience helps you most in your present position?

Presidents answering the questions ranged in age from their early thirties to their late seventies, from men making $13,500 to others making over $400,000 a year. Some had been presidents only two years; others, for more than 50 years.

Testimony in four basic areas came out of the study: (1) Building and maintaining a management team. (2) Personality problems of individual executives. (3) Communications, to and from subordinates. (4) Personal effectiveness of the president himself.

I. Maintaining the Team

Finding high-caliber executives and guiding them up the promotion ladder is a chronic concern of today's top men. One chief executive was troubled by a young vice president who, although promising, was reluctant to increase his responsibility. The president is coping with the situation by "going out of my way to show confidence in his capacities."

Here are two typical problems reported by presidents:

1. With the opening of a new plant, a president had to convince a production superintendent that he wasn't ready to become manager of the new works—and still retain the man's service. He did this by personal talks and the aid of another executive who had "an excellent personal relationship" with the man.

2. This problem concerned an executive who wanted a transfer to another location, where his services were not as urgently needed by the company. The president convinced him of the firm's need for his experience where he was now, and promised him "consideration" for the desired transfer within three years.

When high-ranking executives have to be replaced, the president is faced with the dual problem of finding a replacement and easing the retiring man out gracefully. One chief executive found the answer in hiring an outside consultant to evaluate the company's staff organization. When the retirement came, it was more palatable as part of an overall shift in jobs.

II. Individual Problems

As with other mortals, the personal problems of a president's staff seem to revolve around three basics: *salud, amor y dinero.* "Marriage and money—in that order" one executive labeled as the chief concern of his subordinates.

A company president often must come to grips with problems resulting from the personal and family illnesses of his staff. Concerning a key assistant verging on a nervous breakdown, one chief executive writes: "I talked things over with him, discussed emotional problems that most of us face . . . recommended a good psychiatrist and suggested a week's hunting trip on the company."

Personality conflicts between staff members require tactful handling by a company president. In a dispute over authority by a controller and production manager, one writer took this action: "I got them together and listened while each aired his feelings. Told them I'd listen to anything either of

them had to say but that it would have to be said in the presence of the other man. Almost without my saying a word, they discovered they had just misunderstood one another's actions."

Sometimes the president himself is involved in personality conflicts. One man had been elected president over a vice president who was 20-years his senior in years and experience. He promptly appointed the older man his executive vice president—and the two now work together as a team.

III. Communication Problems

Good communication is the key to efficient management. One chief executive states: "I believe nearly all human relations problems to be a misunderstanding of either one's own or others' motives. A frank discussion with all concerned usually effects a solution."

Company communication travels both downward and upward. Many presidents stressed the importance of getting policy views out and across to lower levels of managers and foremen. Equally important, others state, is a system that keeps the president informed of the thinking in the shop or the field.

IV. Personal Effectiveness

A large number of presidents answering the questionnaire turned the critical spotlight on themselves. Personal traits mentioned as their own handicaps were: lack of patience, irascibility, intolerance of the mistakes of others, and lack of skill in personal communication.

A third of respondents credited their ability to get along with people as their greatest asset from training and experience. Yet there were such complaints as: "I expect too much of other people;" "I have formed too close social relationships with other officials in the company;" "At times I have great difficulty in making decisions that directly affect another person."

Despite its headaches and heartaches, a president's job is a rewarding one. When asked if they would do it all over again if they had the choice, 224 chief executives answered in the affirmative; and 188 said they would choose the identical job they now had. ●

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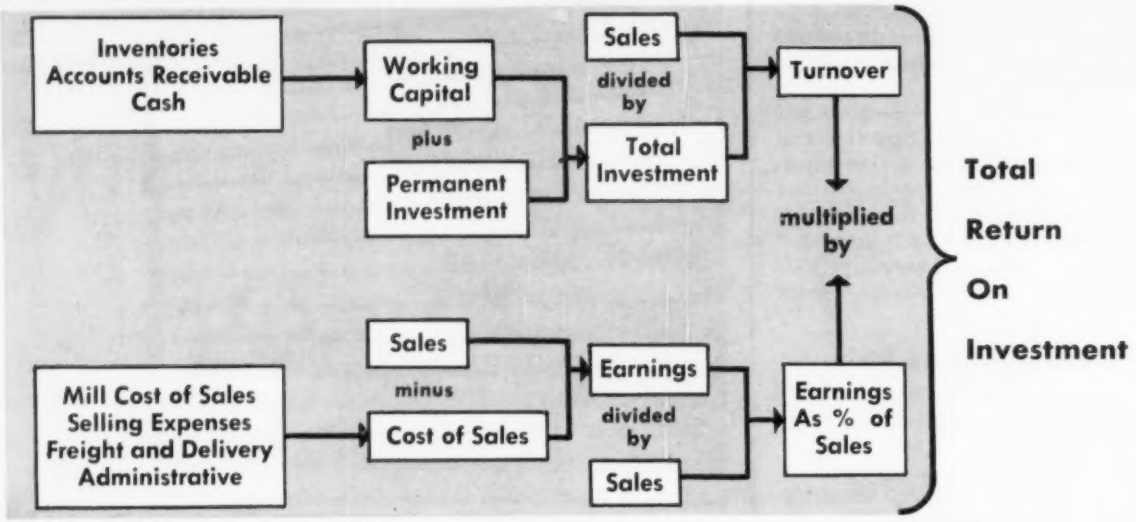

PROFIT EFFICIENCY: It is return on investment, not just earnings as percentage of sales.

Turning Capital Into Profits

Digested from THE CONTROLLER, Jan., p19

Too many managers, controllers believe, are preoccupied with the bottom half of the chart above: they think of profit only as a percentage of sales. In contrast, controllers say that modern managements are placing their stress on the top half—on turnover, and the efficient use of capital and assets.

Profit efficiency—the best possible return on investment—has become basic to sound business management. And this kind of thinking is behind the increasing use of return-on-investment standards as a management control, and as a critical measure of capital-spending projects.

Most capital decisions today are a question of added return on added investment. Growth is the problem; and the company that expands at declining rates of return—or declining "profit efficiency"—faces trouble.

I. Automatic Profit Control

The leaders in setting return-on-investment standards have been the modern industrial giants. Faced with the problem of controlling their fast-growing divisions and subsidiaries, these corporations have developed a system that is close to an "automatic profit-control regulator," based on internal competitive pricing.

Each division or subsidiary is set up as a separate profit center, and each must meet a return-on-investment standard set up by the corporation. Each "buys and sells" its products within the company in competition with outside suppliers. If a "selling" division is unable to meet or better the price of efficient competitors, the "buying" division is free (in theory, at least) to buy from outsiders.

Profit standards vary, of course, according to the type of product, competition, etc. (In the U. S. automobile industry, for instance, divisional standards range all the way from 5% to 20% return on investment after taxes. Corporate standards in this industry average about 12½% after taxes.)

Each month, each profit center reports its performance—its actual profit return on total assets as compared to the return-on-investment standard established for the unit. (To simplify the calculation, assets at the end of the month, or an average of them, is generally used. Divisional assets usually include a prorata share of corporate overhead and assets.)

Competitive pricing—in contrast to internal mark-up pricing—puts tremendous pressure on the divisions to keep up with the latest technology, to keep costs low, and to improve productivity through capital-investment projects.

And these companies judge capital expenditures with the same measure they use for profit performance—return-on-investment.

II. Measure of Liquidity

Many of these companies—and many more small companies—also use a "pay-out" period or "cash-recovery" standard as a measure of capital projects. But the method is used primarily as a check on liquidity—the emphasis is on conserving cash rather than judging profit performance.

Cash recovery heavily weighs short-term earnings. And it offers a sort of built-in insurance that the company will not go bankrupt overnight. (In a survey by the McGraw-Hill Department of Economics, it was found that 80% of U. S. manufacturers expect to get their capital investments back in five years or less; and more than a third expect a "pay-off" in three years or less).

Often cash-recovery calculations are used as a rough screen-

"Do they have Seven-Up in Sáo Paulo, Suzy?"

"Sure they do, Billy. Seven-Up is just about *everywhere!*"

Seven-Up—the universal thirst-quencher.

Seven-Up Export Corporation, 29 Broadway, New York, U.S.A.

ing of capital spending proposals. They are also used to judge risky investment where obsolescence is difficult to determine.

The cash recovery standard is usually an arbitrary period, the length depending on the premium put on cash. For this reason, there is much disagreement on how to treat depreciation and taxes in figuring the pay-off period. Some companies reason that, at the break-even point, depreciation charges are equivalent to cash—so they calculate the pay-out period before depreciation. Some companies also exclude taxes.

Other companies prefer to base cash-recovery standards on the cost of equity capital. A few take an average of debt and equity capital costs; but this lengthens the pay-out period, and conservative controllers frown on it.

The cost of equity capital may vary from, say, 10% to 20%. Reciprocally, the cash recovery standard might range from five to 10 years.

It is well to remember, however, that these same companies also use the return-on-investment standard —in fact, many of them accept it as the basic measure of profit performance.

III But No Substitute

Any such predetermined standards serve only as a guide.

A company may want to produce its own raw material rather than depend on an outside source; and this consideration may well be more important than meeting a fixed, predetermined profit return.

Likewise, there are competitive considerations, or intangible employee benefits to weigh.

In the case of replacement and improvement projects, a high return or short pay-out period may well mean that management delayed too long in making the investment decision.

A blind dependence on mathematical calculations can lead to costly mistakes. This is true of any method of calculation: the orthodox engineering approach, discounted cash flow or investor's method, the pure accounting method, or formulas such as "MAPI" or Terborgh. No financial formulas can substitute for good business judgment. ●

▶ FINANCIAL DIGEST

If the Common Market and Free Trade Area develops as planned, Europe will some day have common rules for currency and bank credit, set by a European Monetary Authority.

The first step toward this goal, in the opinion of economist Robert Triffin (*Europe and the Money Muddle*; Oxford University Press, 40s.), will be to turn the European Payments Union into a European Clearing House. Central banks in each country would be required to keep their European currency holdings and perhaps part of their gold and dollar reserves in this clearing house. Common reserves would increase effective reserves in relation to volume of trade, and give the members greater protection against speculative movements of capital.

Speculative "flight" capital creates balance of payments difficulties in the country it leaves. But it is not healthy for the recipient country if internal credit expands with the influx of such volatile and unpredictable funds.

Switzerland is a case in point. According to the Organization for European Economic Cooperation, the Swiss are trying to protect themselves from a too-heavy inflow of flight capital by forbidding interest payments on certain transient funds, and isolating them from the credit base.

●

The idea of using the "lottery bond" as a device to raise capital seems to be spreading. A year or so ago the British Treasury issued its controversial bonds with the return to bondholders partially based on the lottery idea. (Over $10-million in prize money has been paid out in nine drawings.)

Now some leading banks and insurance companies in Caracas are taking advantage of the Venezuelan's sporting instincts. Organized under the name Ficasa, the group is selling savings bonds and capitalization certificates (in denominations from $30 to $2250) that offer periodic drawings for prizes up to 10 times the original investment. In addition, the investors have up to 12 months to pay.

●

Half of the total capital stock in West Germany—and a third of the gross national product—comes out of the North Rhine-Westphalian area.

Underlining the growth and prosperity of this region, the Rheinish-Westphalian Bourse recently moved into its own modern quarters in Duesseldorf.

The stock exchange was formed in 1935 from a merger of exchanges in Cologne, Essen, and Duesseldorf. From 380 securities then, the listing has grown to 869.

●

Few businessmen—in the U.S.A. at least—shop around among banks for the most favorable interest rate. On the contrary, most bank-client relationships remain stable.

These are conclusions of a researcher (from the University of Michigan) who asked 300 business executives in large and medium sized firms what they tought of banks.

Surprisingly, a quarter of the executives reported a firm policy against bank loans. But the ones that borrow—seasonally or for capital projects—value an assured credit rating and their bank's experience with their special problems.

HOW TO SELECT AN AIRLINE

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✓ **Airmanship.** Over 1400 Pan American pilots have flown more than a million miles each . . . over 150 have flown more than three million miles.

✓ **Reliability.** Only one airline in the world has made over 65,000 transatlantic crossings . . . over 40,000 transpacific crossings.

✓ **Speed.** Fly Pan American's "Super-7" Clippers* — *fast* — quiet overocean airliners—hold 20 official transatlantic speed records.

✓ **Technical advances.** Pan American has pioneered the commercial aviation uses of Ground Control Approach Systems, Long-Range Radio Aids to Navigation, Scientific weather forecasting, Engine analyzers and radar.

✓ **Maintenance Standards.** For every hour in the air, a Clipper receives two hours of maintenance on the ground. In fact, Pan American standards are more exacting than required by any government in the world.

✓ **Economy.** It costs you not a penny more to enjoy the extra dependability, the extra comfort of Pan American—the *world's most experienced airline*—on first-class *President* or tourist-fare *Rainbow*—each the most popular in its class the world over.

✓ **Hospitality.** Pan American, as host to the world, will make you feel at home whatever your origin . . . 36 languages are spoken by flight service attendants —many speak three and four.

✓ **Cuisine.** Gourmet-acclaimed meals enjoyed aboard the Clippers are the pick of the world's market basket. For instance, meals by *Maxim's of Paris* on Pan American's *President* flights have won three coveted prizes for superior cuisine at the latest International Food Exhibition.

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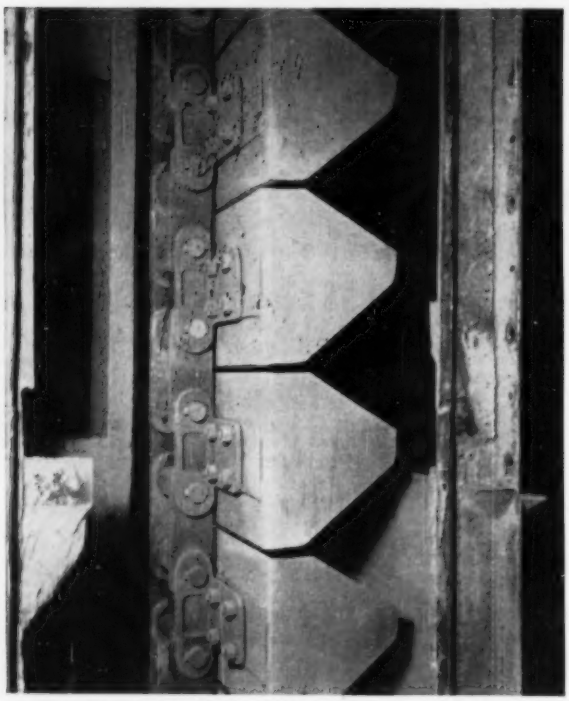
This Link-Belt SS chain has carried over one million tons annually for 16 years



LINK-BELT SS-1146 BUSHED CHAIN on elevator at Whitehall Cement Mfg. Co. measures 20⅜ in. wide. This original chain has been in use since 1941 and, considering the rugged conditions, has needed amazingly few replacements of pins, bushings or links.

Installed on elevators handling cement clinker 24 hours a day

The remarkable performance of Link-Belt SS-1146 bushed chain at Whitehall Cement Mfg. Co., Cementon, Pa., testifies to its exceptional strength and wear resistance . . . emphasizes the economy of choosing the right chain for a specific job. Since 1941, each of three elevators has handled approximately 17 million tons of highly abrasive cement clinker.

Repeated success

This outstanding record of continuous chain service under the toughest conditions is by no means a rare case. Numerous installations report similar results achieved with this long-life wear-resistant chain.

Link-Belt SS-1146 bushed chain offers large joint bearing surfaces for greater wear resistance and trouble-free service in heavy-duty conveying and elevating. Sidebars of selected steel are accurately formed and machined for tight press fit of pins and bushings. The latter are made from tough, hardened steel and locked against rotation in sidebars.

For abrasive jobs

These straight steel sidebars with hardened steel pins and bushings provide needed strength to resist heavy continuous loads. Smooth, hardened surfaces resist abrasive action of gritty materials, prevent packing in critical joints.

18 million tons, 26 years later... SS-856 chain still serviceable

Sets record in cement mill elevator service

The more than quarter-century of continuous handling of raw materials at a cement mill illustrates the long-wearing durability of Link-Belt SS-856 elevator chain. This amazing service record under extremely tough conditions proves that it pays to pick the right chain from Link-Belt's complete line.

Link-Belt SS-856 chain is made of high carbon steel sidebars with nickel alloy pins and bushings. Hardened sidebars give additional strength plus greater resistance to wear and pitch hole distortion. In addition, accurately machined pitch holes assure proper pitch and tight press fit of mating parts —extend chain life. The hard, smooth surfaces of steel joints repel gritty materials . . . resist abrasion.

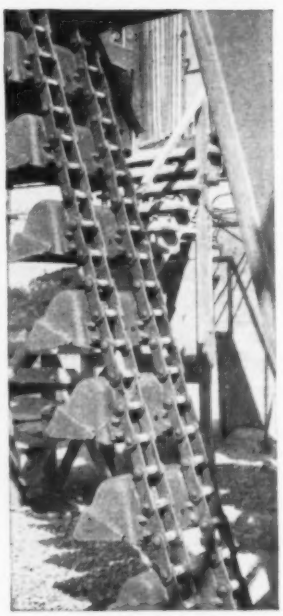
Link-Belt elevator chains are available with ultimate strengths up to 200,000 lbs.

Link-Belt SS-102½ bushed chain extends life of stone elevator

Several years ago an eastern stone quarry installed a main bucket elevator to handle 200 tons per hour of minus 2¼-in. mixed stone. Service life of the original two-strand elevator chain was found inadequate. After several shutdowns, it was replaced with Link-Belt SS-102½ chain with K-5 attachments at every third link.

This long-life, wear-resistant chain is now in its fourth year of uninterrupted operation. It has carried close to 350,000 tons as compared to 60,000 tons which was considered normal life for the previous chain.

Recent inspection of the SS-102½ chain reveals that it is good for another long stretch of service. Elimination of shutdowns and replacements more than justified the slight difference in cost between this and the original chain.



STONE ELEVATOR has buckets at every third link. Centers are 65 feet, with elevator inclined 75 degrees from the grade. Chain speed is 280 feet per minute.

For chains, sprockets and other Link-Belt conveying and mechanical power transmission products call your Link-Belt representative or write us direct. Address: Dept. 358MD.

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14,735-E

Distance Measured by Light

Distances of 1 to 20 miles are measured by reflected light waves in this new instrument designed for use in surveying, hydrography, and geophysics. It is known as the Model 3 Geodimeter and joins the larger and more expensive first and second models. The manufacturers report that the new instrument's accuracy is ±4 inches plus 2-millionths of the distance being measured. Translated to fractional ratios, accuracies are within 1/16,000 at 1 mile, 1/120,000 at 10 miles, and 1/190,000 at 20 miles.

The Geodimeter is 21 x 14 x 12 inches deep and weighs 50 pounds. It stands on a 22-pound tripod and is powered by a 22-pound gasoline engine generator. A reflector is needed at the second terminal point. **A. B. Svenska Gassaccumulator, Stockholm, Sweden.**

Do-It-Yourself Building

No cranes or heavy equipment are necessary to erect the "Stran-Master" shown at the right. Its 13 steel parts are prefabricated, its columns and girts adjustable, so that a 36 x 72-foot building can be put up by an unskilled maintenance crew in 180-200 man-hours. Stran-Masters come in various sizes: width can be 12-120 ft., length any multiple of 16 ft.

At low cost, Stran-Masters provide fire-proof warehousing, and have obvious uses for light manufacturing, or as garages, retail stores, or parking places. **Stran-Steel Corp., Export Sales Dept., 405 Lexington Ave., New York 17, N. Y., U. S. A.**

Caterpillar Carrier Delivers Liquid Fuel—Anywhere

The ten rubber "tires" which make up this caterpillar-like convoy can carry 5000 gallons of liquid over sand, rough ground, snow, or ice. Originally developed for the U. S. Army, the transporter should be valuable in civil engineering or wherever fuels, water, or chemicals have to be moved over terrain which is inaccessible to ordinary tank trucks. A specially designed system empties or fills each container at the rate of 50 to 100 gallons a minute; there is also a filtering system for direct pumping of aviation fuels. **Four Wheel Drive Auto Co., Clintonville, Wisconsin, U. S. A.**

Meet The Newest, Largest Power Package from YALE & TOWNE

...THE TROJAN 4 CU. YD. MODEL 404

Newest and largest — this describes perfectly the Trojan Model 404 tractor shovel . . . This 4 cu. yd. power package is a machine that will top the operating demands of even the hardest users . . . and deliver tremendous yardages with minimum effort . . . Like the 154, 104 and LHM-75, the same high standards of workmanship and materials have gone into the new '404' plus the ability to deliver the same superior performance on the really big jobs. Like all Trojan models, safety is of prime concern and the '404' also features reverse curve safety arms and such job-proven operating aids as low-load carrying position, independent bucket action, straight line horizontal thrust, automatic neutral return and four wheel air brakes . . . Power is supplied by a GM series 6-71 diesel — an economical, low-maintenance power supply. Ask for a '404' demonstration any place — any time!

TROJAN
YALE & TOWNE

TROJAN* TRACTOR SHOVELS

*REG. U. S. PAT. OFF.

YALE & TOWNE 2 & 4 Wheel Drive Front-End Loaders

CONTRACTORS MACHINERY DIV., THE YALE & TOWNE MANUFACTURING COMPANY, BATAVIA, NEW YORK; SAN LEANDRO, CALIFORNIA

Weighs While You Work

A new weighing device is said to weigh accurately any granular, small lump, or flaky dry material while on the run.

The weigher is simply a circular trough balanced on a pivoting fulcrum. A revolving turret equipped with flights or blades causes material to flow through the trough from the intake to an adjacent outlet point. Pressure is exerted on a mechanical linkage in proportion to the volume of the material being fed. Continuous recording of weight is made on an indicator through the linkage. **Stephens-Adamson Mfg. Co., 275 Ridgeway Ave., Aurora, Illinois, U. S. A.**

Information: Fresh from the Factory

You can get it with this production data recorder, which provides a link between the assembling of production data on the factory floor and its ultimate use by tabulating machines or computer systems.

The recorder is a self-contained unit about the size of a desk calculating machine, designed to be placed in manufacturing or assembly departments where it will accept information, select and combine pertinent data, and produce a record on punched tape, cards, or magnetic tape. These records are then made available for machine tabulators or computers to determine payrolls, production schedules, cost control data, etc. **Control Data Corp., Minneapolis, Minnesota, U. S. A.**

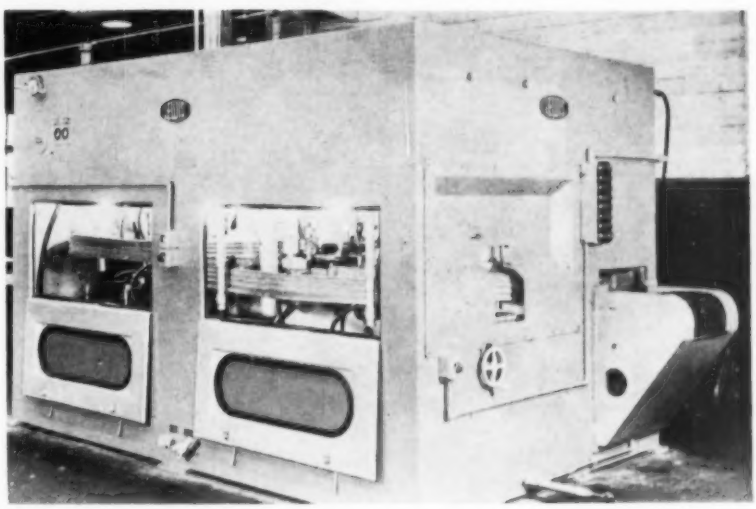
Lifts Awkward Loads

A lever-operated tool has been developed which will lift awkward loads into position during intricate machine assembly or repairs, and can be operated by one man. It is designed for use in engineering and steel works, in mines, and on railways and farms. Capacities are 1,680, 3,360, and 6,720 pounds. **Rotolift Sales Co., St. Peter's, Newcastle-on-Tyne, England.**

Lift Truck with Folding Mast

Trucks with very high masts sometimes have difficulty in passing under bridges, wires, and the like. Some of this company's lift trucks, the G-3 series, have overcome the problem with masts that fold down 40 or 70 inches, depending on the height of the mast.

Visibility and driving room are not impaired, and the actual folding takes about 30 minutes. **Yale & Towne Mfg. Co., 11,000 Roosevelt Blvd., Philadelphia 15, Pennsylvania, U. S. A.**



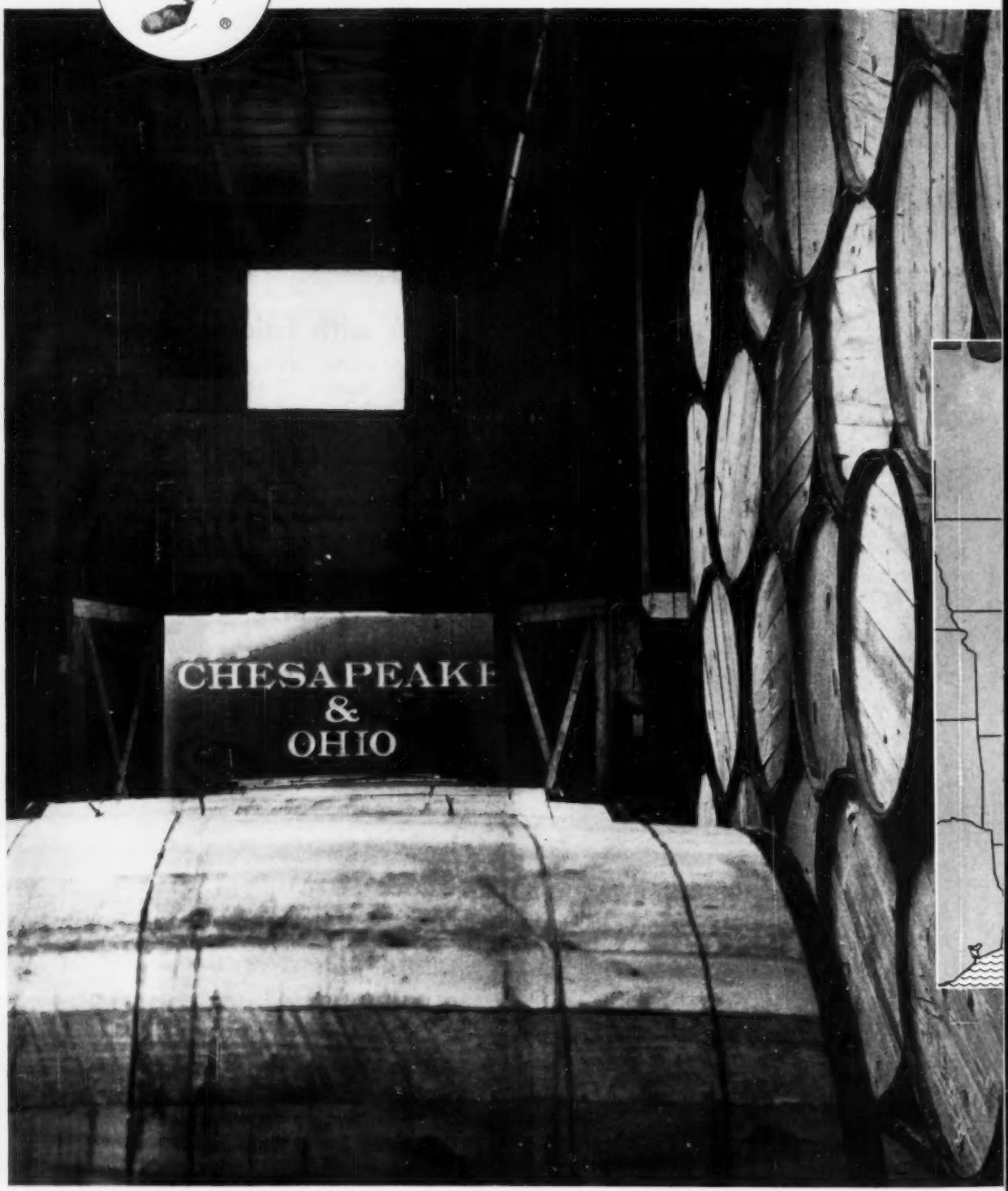
For Finishing Mechanical Parts

Automotive, aircraft, and similar components are given a smooth finish in this new machine, which handles parts automatically during processing, blasting them with liquid abrasive. The process is especially suited for the finishing of mechanical parts, removing heat treatment scale, rust, etc.

The machine can handle different sized parts with ease. Tests show that the process works satisfactorily on a wide variety of materials—including aluminum, copper, mild steel, stainless steel, and titanium. **Lewis Welding & Eng. Corp., Bedford, Ohio, U. S. A.**

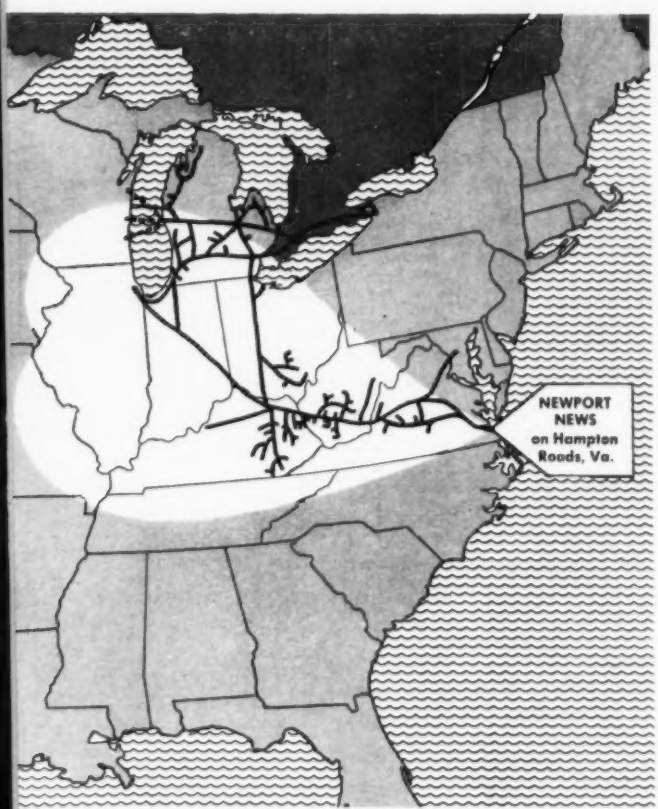
Turn to page 35 for more New Products

SHIP THROUGH NEWPORT NEWS.



For storage-in-transit

If for any reason you want to hold up a shipment, you'll find that Newport News, Va., is just about the safest, cheapest place to store it.



There are over 37 million cubic feet of warehouse space, operated by the Hiden Storage and Forwarding Company. There is a C & O siding beside each row of buildings, and all are sprinkler protected. Modern vacuum fumigating and sampling facilities are available for commodities requiring this service.

Storage, handling and insurance rates are all very reasonable.

These Factors Make Newport News a Great Seaport

- strategic location
- efficient handling equipment
- world's most modern bulk cargo unloading facility
- storage-in-transit
- export packing service
- large covered merchandise piers plus open piers with modern facilities for bulk cargo
- coordinated rail-and-sea transport

Chesapeake and Ohio's World Commerce Department assists exporters, importers, forwarding agents, steamship operators on all matters relating to rail and ocean shipping of overseas and intercoastal freight. Write for free illustrated booklet telling why it's easier to use the C&O Port of Newport News.

Chesapeake and Ohio Railway

WORLD COMMERCE DEPARTMENT, NEWPORT NEWS, VA.

World Commerce Dept. Offices: New York 7, N. Y., 233 Broadway • Chicago 4, Ill., 327 S. LaSalle Bldg. Detroit 26, Mich., 525 Lafayette Bldg. • Richmond 10, Va., 823 East Main St. • Stockholm, Sweden, Kungsgatan 7

Fibers that weave your future

The famed fibers and skilled technicians of Celanese Corporation of America help bring the future closer for a large segment of your textile-apparel industry: weavers, knitters, dyers, finishers, cutters and industrial fabric users.

- **ACETATE,** of course, is the unique beauty fiber for women's apparel—and for men's and children's wear too.
- **CELAPERM**—acetate yarn with *sealed-in* color—makes rich, jewel-like color *practical.*
- **ARNEL** triacetate—the new ease-of-care fiber—knits into anti-static tricot, weaves into ease-of-care fabrics that are machine washable, need little or no ironing.
- **INDUSTRIAL FIBERS** (such as F-66 super-strong rayon) mean industrial fabrics can combine incredible strength and lightness.
- **DECORATIVE FIBERS** makes possible beautiful sheers.

Equally important, Celanese Corporation of America not only delivers its fibers, but its skills as well—from fabric development in our plants to technical knowledge in yours. Ask your Amcel representative—make this future yours.

Arnel® Celaperm® F-36®

See your representative listed below for: Plastics, Polyester Resins, Chemicals, Textiles, Cellulose Acetate.

Australia, Sydney, N.S.W. . . . James Hardie Trading Co. (Pty.) Ltd. . . . Plastics & resins.
Australia, Melbourne . . . Hardie Trading Co. Ltd. . . . Plastics & resins.
Austria, Vienna XIX . . . Eugen Farber . . . Chemicals, plastics, resins, C. A. & textile products.
Belgium, Brussels . . . Keyser & MacKay . . . Resins.
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Egypt, Cairo . . . Padova & Co. . . . Textile products.
England, London . . . A. Revai & Co. (Chemicals) Ltd. . . . Chemicals.
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Hong Kong . . . Optorg Co. (Malaya) Ltd. . . . Chemicals, plastics & resins.
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Indonesia, Djakarta-Kota . . . . . N. V. Agung . . . Chemicals, plastics & resins.
Israel, Tel-Aviv . . . Manfred Gottesmann . . . Chemicals, plastics, resins & textile products.
Italy, Milano . . . . . Euramerica S. R. L. . . . . Resins.
Italy, Milano . . . Usvico (Societa Industriale Commerciale) . . . Chemicals, plastics & textile products.
Japan, Tokyo . . . . Percy Breen . . . . . Plastics.
Korea, Seoul . . . Bando Trading Co., Ltd. . . . Plastics & resins.
Korea, Seoul . . . Mr. Sung Prum Lee . . . Textile products.
Lebanon, Beirut . . . A. Sahmarani Freres . . . Textile products.
Malaya, Singapore . . . Getz Bros. & Co. . . . Chemicals, plastics, resins & textile products.
New Zealand, Auckland . . . Hardie Trading Co. (N.Z.) Ltd. . . . Plastics & resins.
Norway, Oslo . . . . Christen Hoeg . . . . . Chemicals.
Pakistan, Karachi . . . . . Syed A. & M. Wasir Ali . . . . . Chemicals, plastics & textile products.
Philippines, Manila . . . . . Union Trade Distributors . . . Plastics & resins.
Philippines, Manila . . . . . F. E. Zuellig Co., Inc. . . . Chemicals & textile products.
Rhodesia, Bulawayo . . . . . John Beith (Rhodesia) Pvt. Ltd. . . . Chemicals.
So. Africa, Durban (Portuguese East Africa, Nyasaland) . . . John Beith (S. A.) Pty. Ltd. . . . Chemicals.
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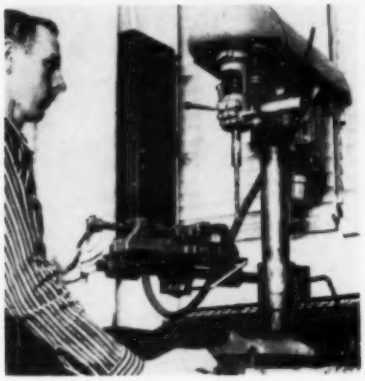
Spain, Barcelona . . . Extractos Curtientes y Productos Quimicos, S. A. . . . Chemicals, plastics & resins.
Sweden, Alvenas Valberg . . . . . Svenska Rayon Aktiebolaget . . . Textile products.
Sweden, Stockholm . . . A. B. Metall & Bergprodukter . . . Chemicals.
Sweden, Stockholm . . . . Scandinavian Raw Materials . . . Plastics.
Switzerland, Basel . . . . . Chemische Fabrik Schweizerhall A. G. . . . Chemicals, plastics, resins & C. A.
Switzerland, Zurich . . . . . Walter Aebli & Co. . . . . Textile products.
Syria, Damascus . . . . . Sahmarani Hammour & Cie . . . . Textile products.
Taiwan (Formosa), Taipei . . . Dah Chung Trading Co. . . . Chemicals, plastics, resins & textile products.
Vietnam (So.) Saigon & Laos . . . Getz Bros. & Co. (Vietnam) . . . Chemicals, plastics & resins.
West Germany, Hamburg . . . Karl O. Helm . . . Chemicals.
West Germany, Hamburg . . . . Plastica Renning K. G. . . . Plastics.

AMCEL CO., INC., 180 MADISON AVENUE, NEW YORK 16, N. Y.
AFFILIATE OF CELANESE CORPORATION OF AMERICA



Drill Press Has Revolving Table

This drill press has a shop-made revolving table designed to speed up tests on the heat of metals. The table holds a vice in which the sample of metal is clamped. It revolves around a rod supported by the column and may be clamped in position. With the table in the horizontal position, the lab. technician clamps the sample in the vice and drills the sample. After drilling, sample and drill shavings are dumped into a pan by rotating the table 180°. The table also turns on the column so that the piece may be quickly positioned under the spindle for each drilling. This method is said to cut at least a minute off waiting time between tests. **Rockwell Mfg. Co., 400 North Lexington Ave., Pittsburgh 8, Pennsylvania, U. S. A.**

Handy Photocopier

This "Contoura-Matic" machine makes photo-exact copies on white, colored, or transparent paper. It also makes film for offset plates and transparencies for projection work. The machine has a plastic cartridge where the processing liquids are pre-mixed, eliminating mixing and pouring. A plastic container filled with premixed chemical developer is snapped into place so that it pours in and out of the machine automatically.

The "Contoura-Matic" weighs less than 12 pounds and turns out 4 copies a minute. A single copy takes 25 seconds. **F. G. Ludwig, Inc., Dept. C-M, 103 Coulter St., Old Saybrook, Connecticut, U.S.A.**

Tiny Tape Recorder

The Gray "Voice Camera" is a completely self-contained magnetic tape recorder equipped with mercury-type batteries which last for 50 hours. The set measures $2\frac{9}{16}$ x $4\frac{3}{4}$ x 7 inches and weighs $2\frac{1}{4}$ pounds, batteries included. A taped message can be reproduced on a standard $1\frac{7}{8}$ inch-per-second tape machine. Completely transistorized in its amplifier section, the instrument has a 2-way playback loudspeaker or microphone. **Gray Mfg. Co., Arbor St. & Capitol Ave., Hartford, Connecticut, U.S.A.**

Bookkeeping Machine

A new bookkeeping machine has a "universal key" controlling all its automatic functions. The brain, or "thinking function selector", can be set for 4 different bookkeeping operations with different forms. **Addo A.B., Industrig 20, Malmo, Sweden.**

Enlarges Films On the Spot

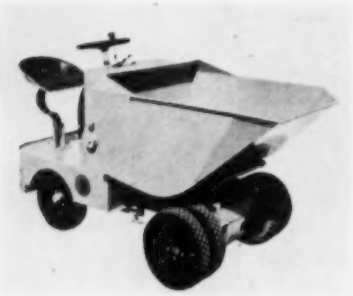
Microfilmed engineering drawings can be read as well as reproduced in this "REP II" machine.

The machine, which was developed specially for reproducing aperture cards containing 35-mm. film, enlarges the filmed drawings to a 17 x 22-inch size on the reading table. The picture shows the first stage of the enlarging process, when the enlargement paper travels into position along a conveyor belt. After exposure, the sheet passes through a light-proof channel to the processing section of the machine. It emerges 50 seconds later. Subsequent prints are produced at 50 second intervals so that the machine, at full capacity, is said to turn out 60 prints per hour. **Remington Rand Intl. Corp., 315 Fourth Avenue, New York 10, N. Y., U. S. A.**

Acid Mixer

The acid mixer shown above has a welded polyethylene structure for easy maintenance. It is built

with a steel-angle Frame support and has a specially constructed sloping bottom for complete drainage. Capacity is 10 gallons. **American Agile Corp., P. O. Box 168, Bedford, Ohio, U.S.A.**



Hopper-cum-Forklift

The "Motobug" carries loads of up to 3,000 pounds in its 18-cubic-foot hopper; or, acting as a lift-truck, it can raise 1,500 pounds to a height of 7 feet.

When fully loaded, the Motobug can climb a 25% grade and is, according to its maker, extremely maneuverable. **Koehring Company, Milwaukee 16, Wisconsin, U.S.A.**

Steel Fingers in Velvet Glove

The steel "fingers" of this huge fork-lift machine can lift 22-ton loads of various materials—from steel or concrete parts to logs—with unusual precision. The secret of its touch lies in the electrically-powered "joint" near the center of the tusks which makes them work like two powerful steel fingers.

Depending on the type of materials it is to handle, the "Series FJ Stacker" can be equipped with fork, crane, ram, or fork with jointed or unjointed tusks. The machine is entirely driven by electric power. **R. G. LeTourneau, Inc., 2399 South MacArthur, Longview, Texas, U. S. A.**

Lighter Air Compressor

This new rotary air compressor has a capacity of 600 cubic feet, weighs 7730 pounds, and turns in a radius of approximately 12 feet. It is a 2-stage, sliding vane type, driven by a GM-71 diesel engine. This is the first of a new line of rotary air compressors to come from the makers, **Le Roi Div. of Westinghouse Air Brake Co., Milwaukee 1, Wisconsin, U.S.A.**

Turn to page 41 for more New Products

STAR HACKSAW BLADES

...Universally known

- **FOR QUALITY**—Proper hardness and uniformity in fabrication. Step by step production with each step carefully checked.
- **FOR PERFORMANCE**—Efficient tooth design plus sufficient set for clearance. A full line for all metal and non-ferrous cutting jobs.
- **FOR ECONOMY**—Long lasting, efficient cutting. They always justify their cost . . . no finer hacksaws are made—anywhere.

Inquiries invited from established agents in certain areas.

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EXACT EXACT

PHOTOS BY H. BARANGER — PARIS

43 "Eucs" working on Serre-Poncon Dam in FRANCE

Serre-Poncon dam in southeastern France is the key to a huge power, irrigation and flood control development on the Durance River. An earth fill structure, the dam will be 400′ in height, 2170′ wide at the base, and 2000′ in length at the crest. When completed in 1959, Serre-Poncon will store nearly a million acre-feet of water for irrigation and will produce 700 million KWh of hydroelectric power per year.

To handle the 18.2 million cu. yds. of alluvial material, the joint contractors, Compagnie Industrielle de Travaux-Ossude are using a fleet of 43 Bottom-Dump Euclids. These big haulers are of 15 and 25 cu. yds. capacity. They are loaded by draglines with 6 cu. yd. buckets and 5 cu. yd. shovels. Fill material from the river bed is hauled a distance of 1¼ to 1½ miles, making the round trip about 2¾ miles.

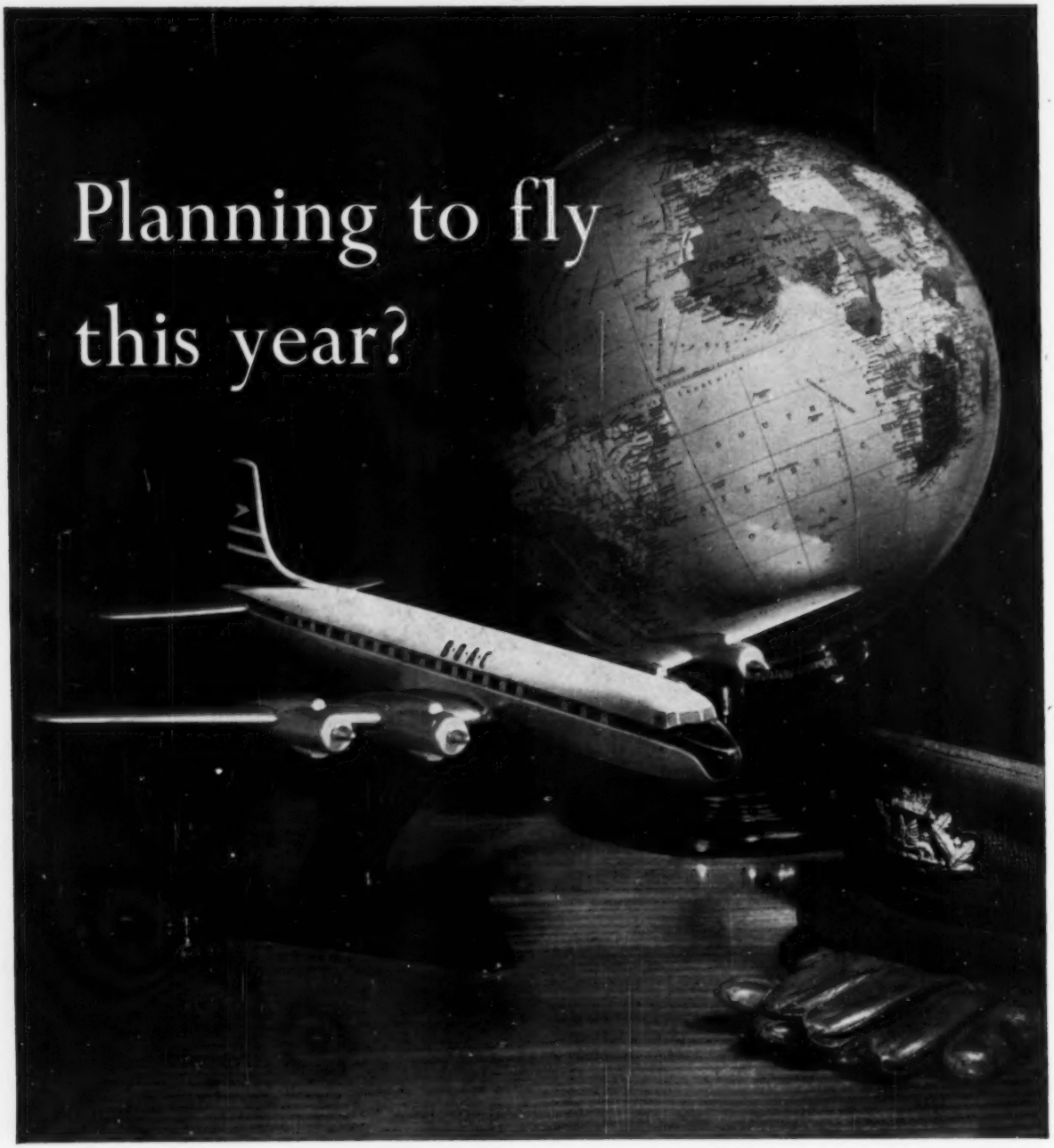
The "Eucs" are working 20 hours a day in this heavy service and have maintained their reputation for dependable, low cost production. They have plenty of power to move their big loads at speeds up to 32mph and negotiate grades up to 9%. Allison Torq-matic Brakes permit faster safe travel speeds on down-grades. Excellent maneuverability, fast, clean dumping and easy operation with Allison torque converter and semi-automatic transmission are some of the other Euclid advantages that have helped keep the work at Serre-Poncon on schedule.

For information on the complete line of Euclid earthmoving equipment—bottom and rear-dump haulers, scrapers and crawler tractors—write us or contact the Euclid dealer in your area. You'll find Euclids are your best investment because they get more work done at lower cost.

GENERAL MOTORS OVERSEAS OPERATIONS • 1775 Broadway, New York 19, N. Y, U. S. A.

EUCLID (GREAT BRITAIN) LIMITED • Newhouse, Lanarkshire, Scotland

EUCLID PRODUCTS



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There are many reasons for the international use of Anderson vegetable oil milling Expellers. International oil millers choose Expellers for higher production, better quality oil and cake yield and low cost operation. These continuous screw presses have tremendous capacity—up to three times more than conventional screw presses. Combined with low residual oils, this high production makes them a sound investment for any oil miller.

The V. D. ANDERSON Company *division of International Basic Economy Corporation*
1962 West 96th Street • Cleveland 2, Ohio • U. S. A.

Write for the new Anderson Expeller Catalog describing how you can make your oil mill operations more profitable with these high capacity machines.

ONLY ANDERSON MAKES EXPELLERS

PROBLEM:

To meet the demand for more efficient high capacity load handling

SOLUTION:

Yale High Capacity Petrol Trucks

Provide more visibility... stability... and maneuverability

New Yale High Capacity Petrol Trucks solve the problem of heavy load handling. They solve it safely, too—by offering an exceptionally clear, unobstructed view to the operator. Power steering, power brakes and separate inching control provide fast cycle operation. Low center of gravity, big pneumatic tires and broad lifting base assure greater load stability. Yale High Capacity Petrol Trucks are available in capacities of 15,000 to 20,000 lbs. with choice of fully automatic torque transmission, fluid coupling or standard transmission.

All Yale Petrol, Electric, Diesel and Hand Lift Trucks are available in currencies of the Free World. All are built to the same high quality standards, no matter where you buy them. Let your Yale Sales and Service Representative help select the Yale Truck best suited to your requirements.

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Yale Sales and Service Representatives are located in Principal Cities of the World

MORE PRODUCT DIGEST

Visual Intercom

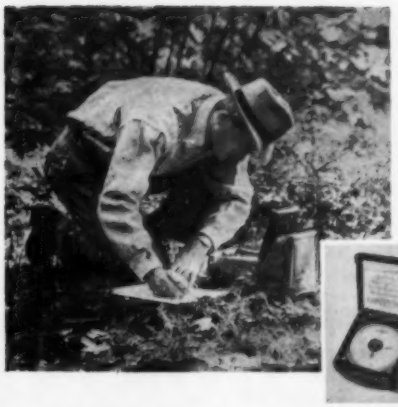
Pictures, written material, and sound can be instantaneously transmitted over distances up to 2,000 yards by the "Deccafax" system. The system allows several master stations to communicate directly with one another; each station has a combined receiver and transmitter set with a microphone built in below the screen so that the operator can speak without engaging his hands.

To transmit, the operator writes on the screen with a wax pencil or places a transparency face down on the screen. The picture is received clearly and sharply.

"Deccafax" has obvious applications in factories, hospitals, banks, airports. In offices it could be especially useful for linking up micro-film records departments with executive offices. **Decca Radar Ltd., 1-3 Brixton Road, London S.W.9, England.**

Compact Magnetic Grate

This grate is built for easy installation in vertical gravity flow lines wherever iron particles have to be sifted—especially from foodstuffs, grain, and chemicals. Models are available for separating either tramp or fine iron. The hinged door makes it easy to remove the accumulated particles. **Eriez International Corp., Commerce Building, Erie 6, Pennsylvania, U. S. A.**

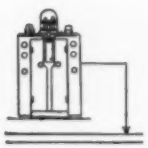


Where Performance Counts

WALLACE & TIERNAN EQUIPMENT IS USED

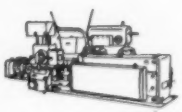
PRESSURE SENSITIVE INSTRUMENTS

The W&T Sensitive Altimeter, shown above, was used on a reconnaissance survey where quick, accurate results were required. The W&T Altimeter was chosen because of its dependability, rugged durability and high order of accuracy. These qualities are typical of all W&T's aneroid and mercurial pressure sensitive instruments, many of which are used in exacting research work and production testing.



CHLORINATION

Equipment includes chlorinators of both the water and mechanical diaphragm types in all capacities, hypochlorinators, and many other auxiliary and accessory items designed for use in the treatment of water for sanitation as well as for numerous industrial purposes.



PROCESS FLOW CONTROL

Equipment includes chemical solution feeders, gravimetric and volumetric dry feeders, and gravimetric meters for use in the chemical, grain, and food processing industries.

AIDS TO NAVIGATION

Includes a number of protective devices for navigation such as buoys, lamp changers, flasher mechanisms, signal timers, fog horns, aircraft flasher units and other related apparatus designed for use in the marine and air transportation field.

Other quality Wallace & Tiernan products and services used throughout the world are listed below. For further information send for list number F-104 of available free technical publications on all Wallace & Tiernan products.

Ammonia Control Apparatus — Cathodic Protection Systems — Chemical Feeders — Chlorinators — Decay Control Process for Produce — Electric Marine Beacons — Flour Processing Chemicals — Pharmaceuticals — Precision Instruments

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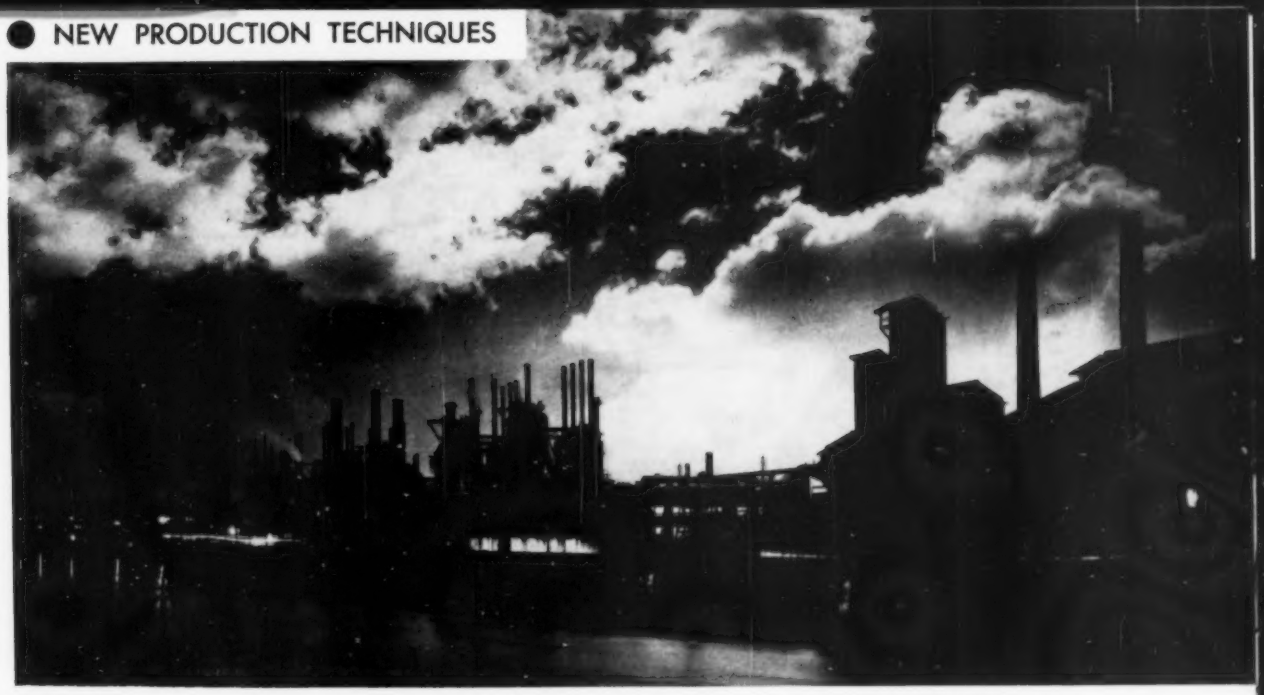


Blast furnaces smelt most of the world's ore, but a supplement is available as . . .

Reduced Ore Proves Its Mettle

U. S. and European steelmakers are looking to direct reduction of iron ore as an aid to expanding their plants, getting into the powered metal business—and out of the scrap business.

Digested from ENGINEERING & MINING JOURNAL, Dec., p84

IRON-ORE EXPORTERS, scrap dealers, traders in iron and steel as well as manufacturers are watching with keen interest the plans of the U. S. A.'s Alan Wood Steel Co. to build a 50-ton-per-day plant for the direct reduction of iron ore in coming months.

Use of a direct reduction process will mean building smaller steel works. Instead of selling ore, exporters in iron-rich areas may get into selling reduced iron.

Direct reduction of iron ore has practical advantages for most firms producing or trading in metals. Alan Wood plans to use the process as a means of entering the growing powdered metal field. Its engineers also feel that output from their process will be competitive with pig iron and purchased scrap.

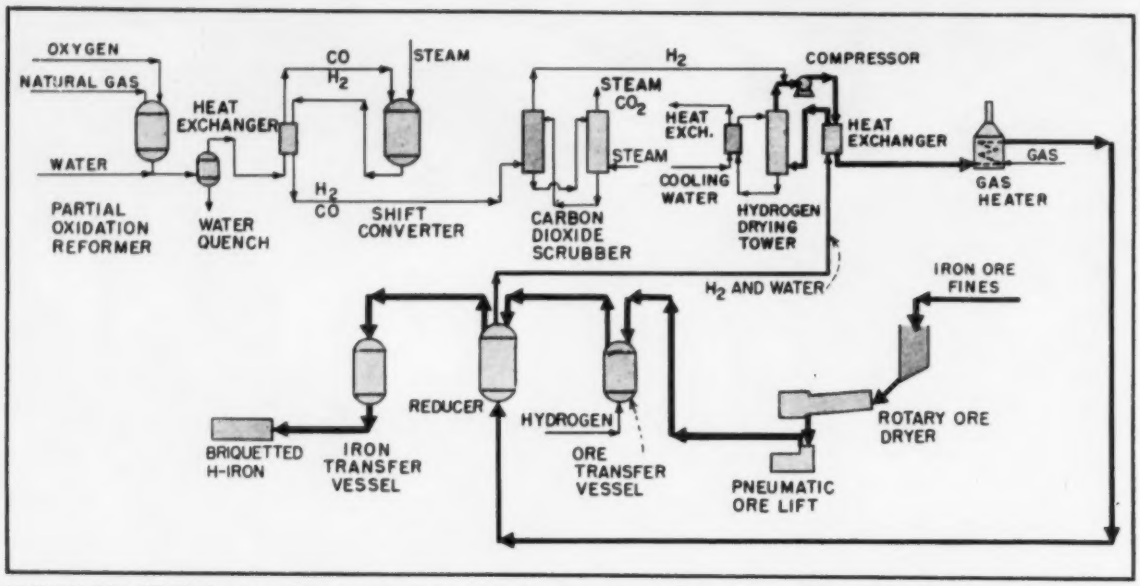
The new plant will make "H-Iron" briquettes by a process developed by two American firms, Hydrocarbon Research Inc. and Bethlehem Steel Co. H-Iron is one of many direct reduction methods under development in various areas of the world. S. G. Cope, writing in England's *Murex Ltd. Review*, notes that 240 processes were patented in the U.S.A. alone as of several years ago.

What are the prospects for these processes in the iron and steel industry? Experts do not expect them to replace the existing huge blast furnaces that today burn coke and ore to produce most of the world's pig iron. These multi-million dollar installations may be fuel hogs, but they are tried and proven. No other smelting equipment can compare with them in volume of output, day in and day out.

Special Advantages—Direct reduction will serve as a supplement and alternate to blast furnaces, rather than as a replacement. The several available processes offer many special advantages. Here are some of the instances where these new processes would be especially applicable:

New Construction — Besides opening production avenues for ore exporters, the new methods can aid existing steel plants in their expansion programs. A direct reduction unit and an electric furnace cost only about 50% as much as a blast furnace and its auxiliaries. A 1,000-ton-per-day blast furnace and attending equipment costs about $30-million in U.S.A.; an electric furnace and H-Iron facility of equal size can be built for $12 million, according to Hydrocarbon Research engineers.

No one builds a small blast furnace. To be economical, a blast furnace must be large and in continuous operation. Direct reduction can be done in small, batch units. Where management wants to increase daily production by less than 1000 tons, direct reduction becomes most attractive, both in initial in-



H-IRON PROCESS: Iron ore fines are reacted with hydrogen generated at the plant by partial oxidation of natural gas.

vestment and operating cost.

Open Hearth Use—Direct reduction can be added to an integrated open hearth plant as a substitute for purchased scrap and high-grade lump ore. Open hearth furnaces normally use 58% hot metal from the blast furnaces, 25% home-generated scrap, 1% alloy, 10% purchased scrap, and 6% lump ore. Directly-reduced metal can substitute for the last two.

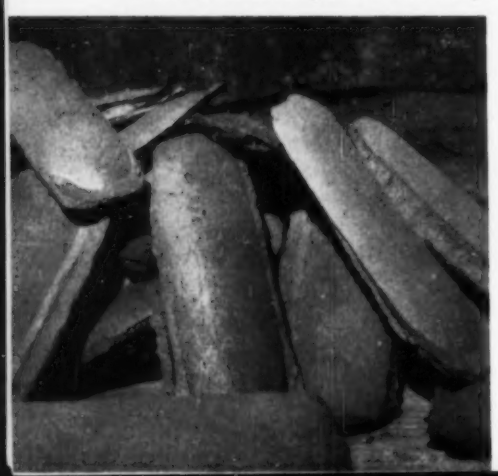
Electric Furnaces—A direct reduction unit can be added to an integrated electric furnace plant that normally uses 100% scrap charge. Reduced ore can replace up to 100% of the purchased scrap in some cases—freeing the electric furnace operators from price headaches of the scrap market.

Coke Scarcities—Steel mills using a direct reduction processes can be built where little or no coke is available. Two types of processes are used: those using gaseous reducing agents in a fluidized reaction; and those taking place in kilns or retorts. Fluidized processes use a wide variety of fuels.

Iron Ore Fines—Companies can install a direct reduction plant to treat the fines now going to the sinter strand or dump. Engineers say that the process can make reduced iron at a lower cost than it would take to sinter the fines.

Direct reduction can be used to up-grade ores or to reduce high-grade fines or concentrate. Some processes remove only oxygen and sulfur; others also remove silica, alumina, and phosphorus.

H-IRON BRIQUETTES will be produced at a cost competitive with scrap.



Processes Available

The H-Iron method developed by Hydrocarbon and Bethlehem (see chart) kiln-dries iron ore fines at a temperature of about 500 C and then reacts them with dry hydrogen in a batch process. The resulting products are reduced iron, water, and unreacted hydrogen. The iron is compacted into briquettes. Natural gas or fuel oil is used to produce the hydrogen required, though any hydrogen source can be used.

The Wiberg-Soderfors process now being used in Sweden has proved one of the most commercially successful. This is a gaseous technique using a shaft furnace.

In the Swedish process, a filtered hot mixture of carbon monoxide and hydrogen pass upward through a shaft as iron oxides descend. Half way up the shaft depleted portions of the gas are removed for regeneration, while the remainder continues upward to initiate preliminary ore reduction.

Air is admitted higher up the shaft to burn combustible gases and preheat the incoming ore. In the final reduction zone (near the base of the shaft) the temperature of the metal goes up to about 1000 C. Reduced iron is cooled and discharged at about 150 C into airtight shipping containers.

Another direct reduction method that has proven itself commercially is the German-developed Krupp-Renn process. Plants using the process today are reducing ores for open hearth and electric furnaces in Germany, Greece, Spain, Czechoslovakia, and the Far East.

The process is carried out in a rotary kiln and produces iron in the form of low-carbon nodules called luppen. Economic conversion of low-grade and high-silica ores is possible.

Still in the pilot plant stage is a direct reduction process developed in England, called Cyclosteel. Ore, coal, and air are blown into a combustion chamber, where a cyclone-like turbulence is created. High particle speed and the large surface area of the finely ground particles makes reduction almost instantaneous. ●

Spray Gun Builds Up Stronger Plastics

Two-nozzle tool saves in material and labor by mixing fiber, resin, and catalyst in midair.

Digested from BUSINESS WEEK, Jan. 18, p55; PRODUCT ENG., Jan 13, p17

HIGH COSTS until recently have held back the wider use of reinforced plastics for such things as small boats, chairs, appliance housings, and truck bodies. Now, an exciting new technique has been advanced in the U.S.A. that appears likely to cut materials costs by 25% and labor cost by 50% on such products.

The answer is in a two-nozzle spray gun, developed by Rand Development Corp. (Cleveland, Ohio), that forms glass-fiber moldings with the ease that you might apply a coat of paint. Material savings come from the use of inexpensive fiber-glass rovings rather than sheets of glass cloth. Labor savings are inherent in the simplicity and speed of the new process.

The conventional way of making such plastic products involves tailoring the reinforcing glass cloth to the rough outline of a molded object, laying the cloth in the mold, then saturating it with a polyester resin.

With the new spray gun, the resin and chopped-up glass fiber are sprayed on at the rate of 9 pounds per minute. Resin and a catalyst come out of one nozzle, while resin and a drying agent come out of the other. Continuous fiber-glass rovings are fed through a rotary cutter that shoots the chopped strands onto the plastic-wetted surface.

After one pass is made over the mold, the fiber-resin mixture is rolled down by hand to make an air-free laminate that gels in a few minutes. The procedure is repeated until the desired thickness has been built up.

The success of the Rand gun lies in its "glass-chopping" mechanism. Actually, it does not chop up the fibers but breaks them by bending, then shoots the fibers ahead to combine with the converging streams of resin. Most earlier attempts to get a workable spray gun failed when engineers were not able to solve the problem of cutting this hard-surfaced material.

A crew of three men is required to use a fiber-resin depositor to best advantage. One operates the gun, and two roll down the chopped fiber and resin. Even with output cut to half of its maximum rate, the three men can form a simple product like a boat at a rate of 160 pounds per hour.

When making small, detailed parts, a low glass output with fiber cut into short lengths is preferred; for large objects, a higher glass output and longer lengths are used. The Rand spray gun is said to have about the same capacity in terms of glass cut per minute as a large preforming machine.

All parts made by the spray method are substantially stronger than objects made by the conventional hand-layup method. Reasons: the high glass-resin ratio; the absence of undesirable binders; improved fiber distribution and wetting, and the elimination of trapped air bubbles.

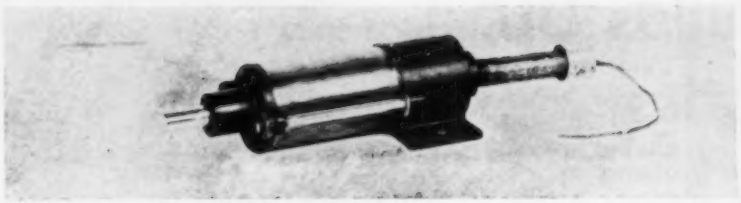
The first customer for the new process is a U.S. boat manufacturer, who will make his entire line of 18 plastic models by the spray process. Others reported to be interested include casket makers, truck and scooter body makers, dairy supply companies (for barn floors), and the packaging industry.

H. J. Rand, president of Rand Development, sees a vast potential for his plastics spray in the housing field. With the gun, Rand points out, plastic skylights can be sprayed in at the site. The same approach could be used to build roof sections, swimming pools, and wall panels. Rand plans to license his equipment, rather than sell it outright. ●

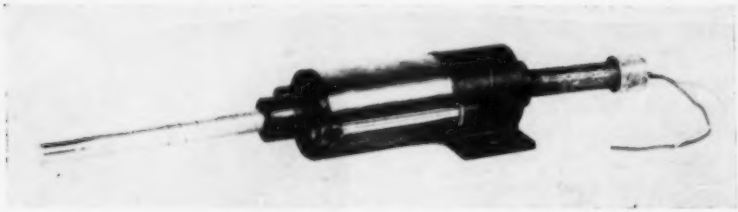
GUN simultaneously sprays chemicals and shoots out glass-fiber rovings.

GLASS-RESIN laminate is rolled down by hand to remove entrapped air.

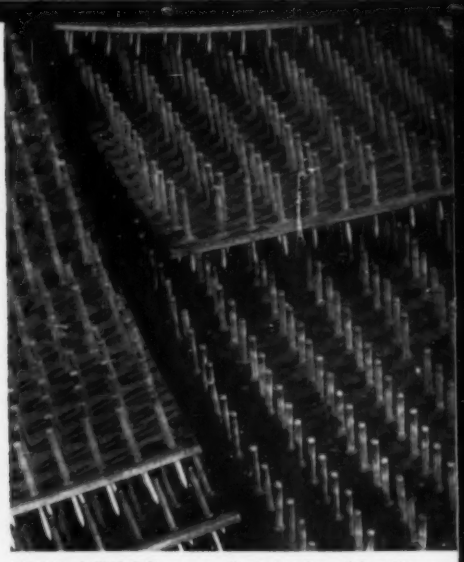
PLASTIC boat hull is removed from its mold two hours after work began.



SQUIB powered by cartridge, before firing . . .



. . . and after; it can lift weights, make electric cutoffs.



STUD DRIVER, recently introduced by Rem-

Explosives Take On Everyday

Propellant engineers now are finding a wide variety of industrial uses for their high-potency compounds.

Digested from PRODUCT ENGINEERING, Jan. 6, p56

CAN EXPLOSIVES be put to work on the production line? The question probably has been asked since the invention of gunpowder. Now chemists and fuel manufacturers are finding the answer in a wide range of industrial devices.

Portable power packs are being developed with strength tailored to do anything from driving a steel stud to braking a runaway truck or locomotive. Devices already under test include packaged power units that start and stop engines, lift weights, form metals, and operate portable tools.

Two factors have combined to make a place for explosives in the factory and the workshop: 1) Chemists have come forward with new high-energy compounds; and 2) machine development has created a demand for compact, high-energy power sources.

An example of the need created by machine changes can be seen in the outboard motor. Motors have been getting so big that neither manual starting nor batteries are entirely satisfactory.

Cartridge starters for outboard motors had been tried in the past, but found unreliable, particularly if they got wet. Reliability now has been added by the development of new high-energy compounds. One U. S. firm states that its tests with such devices show a failure of only 1 cartridge per 10,000 used.

Though preoccupied with weapons, the U. S. propellant industry has begun to apply such cartridges and similar devices to many industrial and consumer uses. Among them are brake actuators, stud-drivers, cattle-stunners, fire-fighting equipment, oil-well perforating and cementing tools, and weight-lifting devices. Under test also are metal-forming applications, diesel-engine starters, audible signal generators, and temperature-sensing mechanisms.

BABY ROCKET may be used for starting and stopping machine.

The simplicity of these power packs is illustrated by the temperature-sensor. It is nothing more than a propellant that ignites when it reaches a specific temperature, but is stable until that point. By proper compounding of solid fuels, manufacturers hope to develop a material with an automatic ignition point of anywhere from 150° C to 225° C.

Power packs may do unusual jobs in metalworking because of their fast delivery of high energy. Hard metals such as titanium and stainless steel are difficult to shape by ordinary die-forming methods. The sudden speed of an explosive may be the answer.

A U. S. aircraft engine plant recently has turned to powder charges for forming stainless-steel guide vanes. The explosive does the job quicker and more efficiently than the complex set-up of expensive dies and a wax fitting used in the past.

Metal-cutting is another promising use for explosives. Researchers say it is as easy to slice a railroad tank car with a high-energy charge as with a blowtorch, and much faster and neater. With proper control and placement of

ington Arms Co., is forced through steel or concrete by .22 and .32 caliber cartridges.

Jobs in the Factory

explosives, hard materials can be cut to any size or shape.

Experts are debating the value of power packs for emergency braking of trucks and locomotives. Those in favor visualize a rocket delivering a counteracting thrust to a truck or engine racing down a hill after its brakes have failed. But skeptics point out the dangers of the powerful blast needed—and question the practicality of such an application. After all, they say, how often do we have runaway trains?

Explosives are especially applicable where there is need for a compact device capable of delivering large amounts of energy in an extremely short time. Their special advantages are that they can be packaged in any size or shape, and they can be placed exactly where the energy is needed, thereby eliminating many meters of the connecting tubing required by conventional hydraulic or pneumatic systems.

Cost was not a primary consideration in the early development of these high-energy devices. Most of the work was done for the aircraft industry, which was not inclined to worry about a $1,000 mechanism if it might save a $1-million airplane.

Manufacturers of such mechanisms now talk in terms of $100 to $200 per unit. Present prices, however, represent design and development costs and single-unit production. On even a moderate-production basis, it should be possible to bring cost down to $25 or maybe $10 a unit. Cartridges for stud-drivers already are low in cost.

Portable power packs are extremely new, a by-product of rocket and weapon research. Many of the most promising industrial uses are still in early development stages.

Development of high-energy devices has been a part of the military-research programs of research institutes, rocket designers, and ammunition producers. This work has produced know-how that now can be put to use by industry.

The prospects for such power packs are endless—and sometimes, preposterous. One U.S. firm, Propellex Corp., says it was invited to consider developing a propellant-actuated baby-cradle rocker. The firm turned down the job, not because it couldn't be done safely—but because of the fantastic educational program that would be required to put such a product on the market.

Education will be required for many of the future uses of power packs. Education—plus further development and testing. But propellant engineers have great faith in the eventual value of their devices for an endless number of industrial and consumer uses. ●

Soapmakers Gaze into the Crystal

The modern housewife may be only just getting used to her automatic washing machine, but she's in for some startling wash-day products and processes in the next dozen years. Here are some views of the future *Chemical Week* picked up in a survey of 50 companies in soap and allied fields:

Detergents—The product of the future will be a heavy-duty liquid that contains bleaches, fabric conditioners, sanitizing and antistatic agents. Liquids will be preferred to powders because they are easy to dispense and dissolve readily.

Germicides and Bleaches—Both are currently being put into wash products, and the trend is expected to increase steadily. By 1970, manufacturers expect that optical brighteners (fluorescent dyes) will be going into virtually all detergents; germ killers, such as hexachlorophene, also will be standard practice.

Fire Resistance—Chemicals that repel flames also may be used. One company reported that it was working on a fireproofing agent that could be sprayed on clothes in the washing machine's final rinse cycle.

Cleaning with Gas—Tomorrow's detergent may be a gas, according to one detergent maker. It could be dispensed from a central point in the community and piped directly to automatic washers.

Upgraded Machines—The home laundry of 1970, experts say, will consist of a combined washer-dryer with detergent dispenser that will do the wash in 15 minutes. Cold-water washing, already a feature of some machines, will be common.

Textiles—A chemical firm predicts that by 1970 "soil-resistant, bacteria-resistant and completely wrinkleproof fabrics" will be available.

Predictions for the distant future: Detergents built into clothes; a gas chamber through which a person can walk and have his clothes cleaned on his back. ●

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Gamma Rays Aid Food Storage

Rays that kill can also protect. Here is how a by-product of atom-splitting soon may be used to preserve foods.

Digested from FOOD ENGINEERING, Dec., p57

RADIOACTIVE ISOTOPES last year saved U. S. manufacturers and their customers an estimated half billion dollars. Experts say this figure will be increased ten-fold by 1960, as new processing jobs (MD, Feb. '57, p 28) are shouldered by ray-emitting elements.

One of the boldest frontiers for radiation is in the preservation of foods at normal temperatures. Though work to date has concentrated on developing a safe ration for the military (under the auspices of the U. S. Department of Defense), the progress made holds great promise for food processors and consumers generally. Eventually food may be able to be stored for long periods without refrigeration and with no ill effects to the product.

Radioactivity kills bacteria, thus giving meat and vegetables a new lease on life. The problem: to preserve, but not to lose the value and taste of the food in the process. Here are some details of the progress made in studies by the American military:

During the U. S. military tests, men lived on a 100% diet of irradiated food for 12 weeks without adverse effects. More than 100 irradiated food items were cleared for human testing after extensive animal-feeding studies.

Among the most promising of foods studied were bacon, green beans, and peaches; all withstood one year of storage at 22 C. A wide variety of meats, sea food, fish, vegetables and fruit were subjected to radiation. Formulated dishes showing promise included chicken and vegetables, frankfurters and beans, and beef stew.

Irradiation of foods often results in undesirable sensory changes. A reddish discoloration sometimes appears in meat products. Fish and fruit tend to turn brown, and vegetables may lose their characteristic green color. Pork and poultry stood up the best.

Ways of overcoming these changes are being explored. Extensive microbiological studies are aimed at reducing the radiation dosage necessary to kill bacteria, so as to not effect the appearance of the food. Precooking, and the application of antibiotics, both indicate promise.

Pasteurization by radiation has doubled the shelf-life of fruit and vegetables; doses have been large enough to inactivate most of the mold population without causing damage—such as softening or color change. Such doses have been successfully applied to strawberries, lemons, oranges, and peaches.

Tests are going ahead to establish the wholesomeness and nutritional value of irradiated foods. Animal-feeding tests on 21 different food items are currently underway. The two-year study will be completed in June; the researchers hope it will establish the complete safety of prolonged consumption of irradiated foods.

Meanwhile, a related study will try to uncover any possible effect of irradiated diets on reproduction in animals.

The Armed Forces project used ten major sources of radiation, including electron beams, X-rays, and gamma rays. Most of the food was irradiated with gamma rays from reactor fuel elements.

Three industrial plants cooperated by providing electron beam sources. The equipment included a 2 mev (million electron volts) resonant transformer, a 2 mev Van de Graaf unit, and an 8 mev linear accelerator. An X-ray machine at one of the large U. S. research institute also was used to a limited extent.

Food must be irradiated in the package. That means that packaging material as well as food must be able to withstand radiation. Also, the package must adequately

HAMBURGERS are bombarded by electrons from this Van de Graaf unit.

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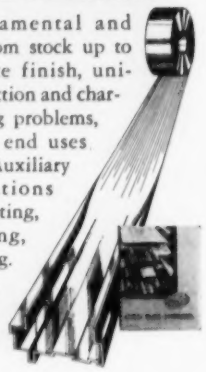

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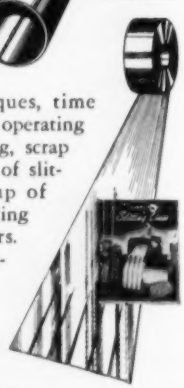

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protect the product against recontamination. Studies were conducted with both metal cans and flexible containers. Tin-plate cans have proved to be the most satisfactory to date.

Investigators found that flexible (plastic and plastic-aluminum foil) containers were satisfactory for foods treated with a minimum dose of radiation. Above this minimum, odors were generated in the package and some deterioration of the package by food ingredients was observed.

The work of Armed Forces researchers will be continued at a pilot plant in California, which will go into operation late this year. The plant will have three major facilities: offices and laboratories, a processing works for all types of food, and equipment for generating radiation sources.

Work at the new pilot plant will concentrate on three major aims: (1) To produce a great deal more irradiated food for research and testing; (2) To prove out the many technical variables that have arisen in the studies; and (3) To obtain a fund of measurable cost data that can be used for industrial-type facilities.●

Pulp-Making Goes Automatic

Digested from CHEMICAL WEEK, Dec. 28, p49

Advocates of continuous processing are storming one of the most entrenched strongholds of the batch process—pulp and paper-making. The move toward continuous pulping centers around the Swedish process known as Kamyr, developed by Karlstads Mek Werkstad, A.B.

Twenty Kamyr continuous digesters already have been put to work in various paper-producing areas of the world, including one in Canada and three in the U. S. A. A fourth American installation is scheduled to start operations later this year.

As with other industries, the advantages of continuous processing are substantial. Continuous wood pulping can mean automatic control by a single operator, and greatly reduced operating costs. The Kamyr process is said to give higher yields of uniform pulp than batch methods. It is cheaper to install than a batch plant of the same size, and minimizes maintenance requirements by eliminating conditions that cause corrosion.

The Kamyr process begins with the movement of wood chips by screw conveyor through a low-pressure, horizontal steam vessel. This operation drives off air and turpentine, eliminating the need for vapor space at the top of the continuous digester.

Heated chips are fed into the tall vertical digester through a specially balanced rotary valve, and mixed with fresh pulping liquor. The chip-liquor mixture is heated gradually as it flows through successive stages.

Cooked stock is blown into the top of an hourglass-shaped blow tank. The narrow middle section permits different temperatures in each of the two chambers. The lower chamber is used to dilute and cool the stock for washing.

The entire operation from chip bin to washed-stock chest is almost completely automatic. A skilled operator, however, must control the blending of chip feed to compensate for variations and minimize operating adjustments.

In small plants, the initial cost of a continuous digester is about the same as that of batch equipment. But for a large plant, with digesters capable of handling 400 tons per day, investment would be considerably less than for batch processing.

Despite such advantages, paper men are not jumping on the continuous-processing bandwagon immediately. Batch processing also has its advantages: it simplifies adjustment of cooking conditions, which vary with grades of wood; it uses multiple units that can be repaired one at a time.

Also, the industry has a tremendous investment in batch equipment, which can not be discarded overnight. The shift to continuous processing will come gradually, with the expansion and replacement of existing batch facilities.●

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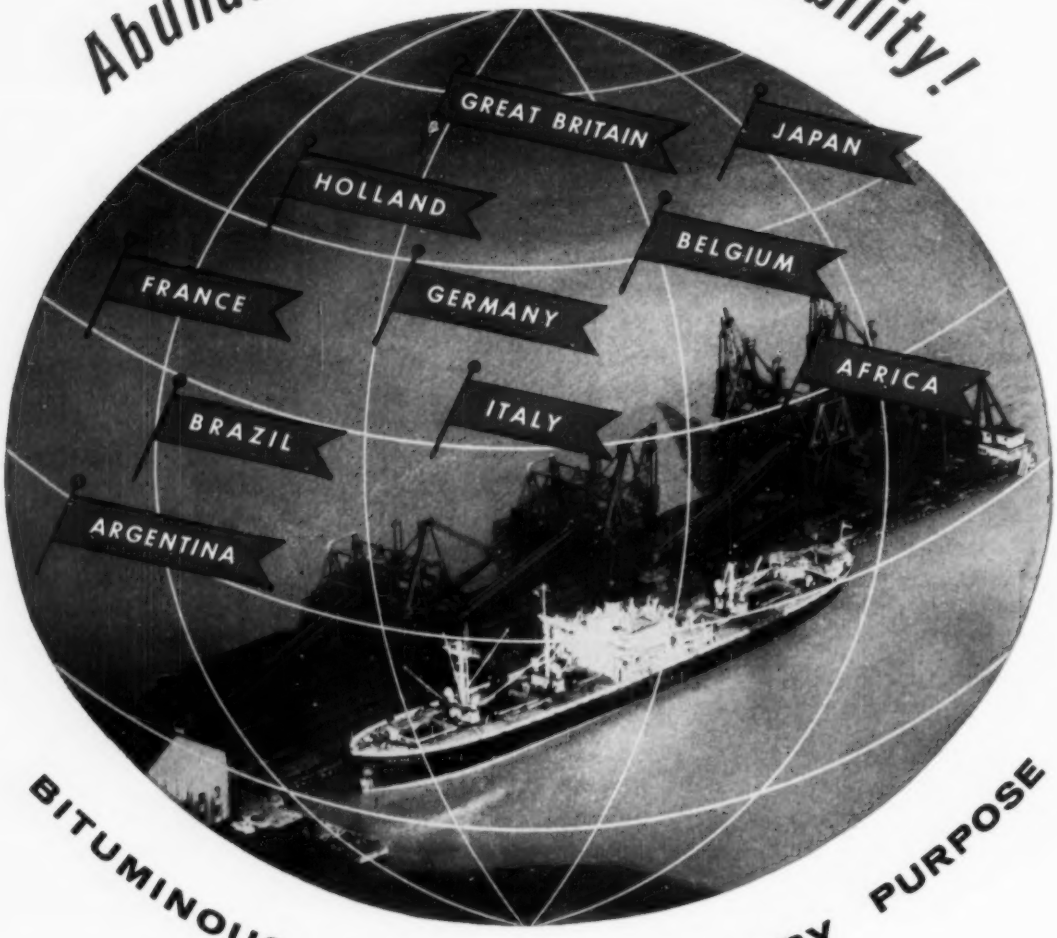

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Baltimore & Ohio Railroad

Looking Ahead in Technology

● **PREDICTIONS of these wonders of the next 100 years** came from eminent scientists meeting in New York: Industry will satisfy its needs for raw materials from ordinary rock, sea water, and energy from the sun. Man will solve the mysteries of what makes grass green and how oysters get their copper from the sea. Trips to the moon will be routine, deserts will be irrigated by ocean water, and farm labor will be displaced by mechanized monsters run from master control panels. Men will prescribe the sex of their offspring and be able to produce twins, identical or fraternal, at will, or even triplets. (*Product Engineering, Dec.* 23, *p*51)

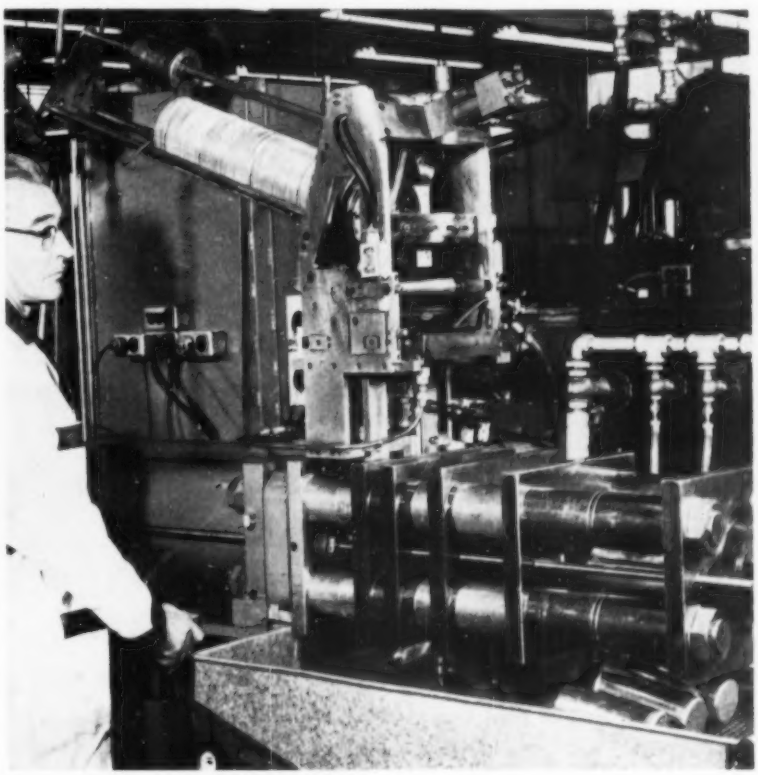
● **WOOLENS that can be washed and immediately** worn appear in the offing with a fabric finish developed by the Australian Commonwealth Scientific and Industrial Organization. Garments treated by the process can be washed in soap and water or worn in the rain without losing creases and pleats. The finishing material is sprayed on the garment just before the final pressing and does not affect the moisture absorbency or tensile strength of the wool. (*Textile World, Jan., p*100)

● **BACTERIA are being used as an aid in recovering metals** and in producing liquid fuel from oil shale, in experiments of the U. S. Bureau of Mines. The tiny organisms oxidize sulfur to acid and permit larger metal recoveries; in fact, bacteria cultures have aided in the extraction of up to 99% of manganese in some ores. Promising recoveries of nickel, copper, cobalt and other metals from low-grade ores also have been made. (*Business Week, Jan.* 11, *p*49)

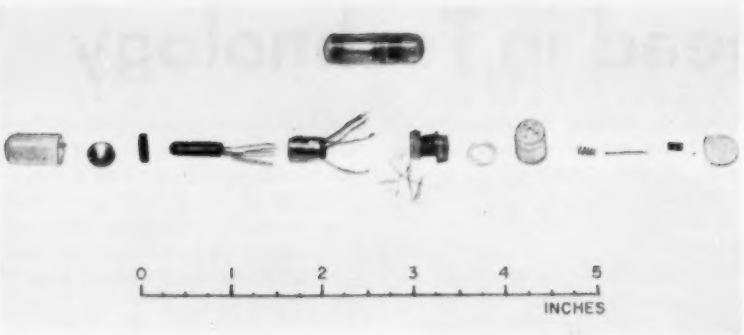
● **RUSSIA has found sizeable deposits of rhenium** in Kazakhstan and is using it to plate rocket nose cones and engine parts. U. S. interest in the rare metal has centered around electrical and electronic application, but the reason for the interest is the same: rhenium retains its strength at high temperatures up to a melting point of above 3100 C. (*Product Engineering, Jan.* 27, *p*12)

● **MECHANICAL HANDS that can disassemble a jet engine—bolt by bolt**—are part of the remote handling equipment set up by the U. S. Atomic Energy Commission at one of its shops for radioactive studies. Among several remote handling tools is the O'Man manipulator, built by General Electric Company, that can accurately maneuver 500 lb. to 3,000 lb. of equipment by electrical controls. Operators stand behind concrete walls about two meters thick, view their intricate lifting and maneuvering of parts through windows made of lead glass and zinc bromide. Viewing aids include binoculars, telescopes, mirrors, and a closed circuit television set-up.

● **AN OPTICAL GLASS of high refractivity** has been developed by the Osaka Research Institute of Industrial Technology, Japan. The new glass is made principally of thallium, cadmium, lanthanum, and boric acid. It is said to be suitable for production of f 0.9 camera lenses.



● **ALUMINUM CANS soon may be made by volume users at their own plants,** saving large sums in shipment of empty cans. The prospect is in a new deep-drawing process perfected by Kaiser Aluminum & Chemical Corp. in the U. S. A. The compact size of the equipment (photo above) makes it possible for large users to fabricate their own cans. An advantage of the process is a seamless can of uniform wall thickness produced in a single stroke, promising a high rate of production; also cans roll off the machine highly polished, with no need for further finishing. Decoration may be easily added. (*Factory Management & Maintenance, Jan., p*92)



● **RADIO PILLS that are swallowed** and pass through the gastro-intestinal tract, sending back data on body temperature and pressure, have been developed by Swedish scientists. The pill, shown above its tiny components in the top picture, is 0.9 cm (.35 inches) in diameter and 2.8 cm (1.1 inches) long. Known as an endoradiosonde, it will help doctors test the action of a drug as it passes through a patient. Continuing research is aimed at incorporating components in the pill that will sense and relay body chemical reactions. (*Electronics, Jan. 3, p51*)

● **COAL GAS for domestic use will be stored** by Imperial Chemical Industries, Ltd. in a specially constructed cavity in a salt deposit, some 365 meters below the estuary of River Tees, England. The pit will be made by dissolving the salt as brine, and will hold about 300,000 cubic meters of gas under pressure. Construction costs will be high, but ICI figures that it will be cheaper than building conventional storage facilities. (*Chemical Week, Dec. 28, p66*)

● **TRANSLATION of foreign languages by machine** is another "electronic miracle" that technical men hope for in the next two to four years. Electronic computer manufacturers and universities have been working on the problem for the past ten years. Latest promise comes from U.S.A.'s Georgetown University, where a Russian-born librarian, Ariadne Lukjanow, has developed a system that sets up a numerical code that equates English and foreign words. Miss Lukjanow and her associates have assembled a lexicon of 2100 Russian words and their English equivalents for study.

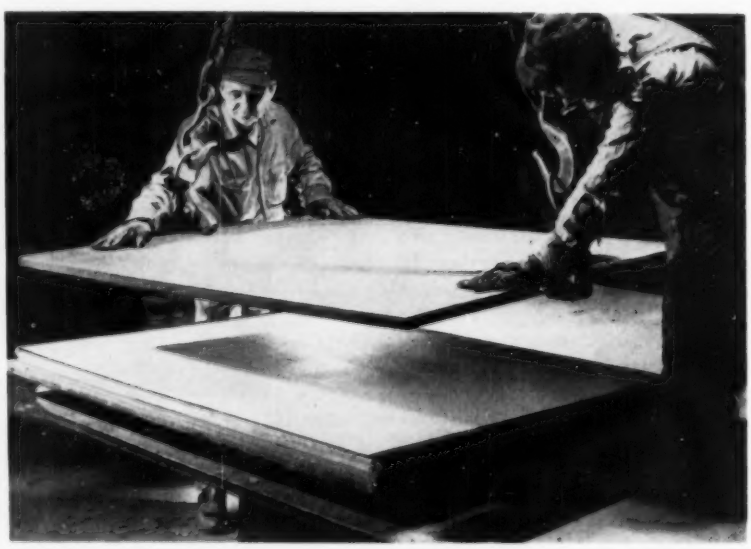
Five basic steps are involved in mechanical translation: (1) feeding an original text into a machine; (2) transforming this text into symbols that the machine can handle; (3) coding these symbols for shadings of syntax and meaning; (4) turning the coded message into words of another language; and (5) presenting the translated text. (*Product Engineering, Dec. 23, p85*)

● **PAPER made of nylon and vinyl** will be produced later this year by the Special Paper Manufacturing Co., Japan. The firm will use a wet process developed by Professor Seizo Okamura of the Kyoto University. The new paper is said to be better than ordinary paper in tenacity, smoothness, and fire resistance. Possible applications range from paper money to a medium for filtering air containing radioactive dust.

● **CAPSULES soon may be used for marketing a wide variety of products,** including perfumes, cleaning fluids, liquid waxes, as well as many pharmaceuticals. The prospect is in a new encapsulating method developed in France and now being made available elsewhere.

The system consists of three vertical tubes set one inside of the other. Material to be encapsulated is introduced through the top of the inner tube, which extends down about three fourths of the length of the other two tubes. Sodium alginate, the encapsulating medium, is supplied through an annular space between the second and third tube, with the space between tubes one and two filled with air under slight pressure. Drops of the material being encapsulated fall onto a thin film of the sodium alginate; and then, with their enclosing capsules, into a calcium chloride hardening bath.

The capsules are soluble in gastric juices of men and animals, and will disintegrate in water containing substantial amounts of salt. (*Chemical Engineering, Jan. 13, p. 88*)



● **STAINLESS STEEL sheets of lighter gage and larger widths** will be possible through a new rolling technique developed by U. S. Steel Corp. The American firm will produce the improved product by sandwiching metal between carbon-steel plates (photo), then heating and rolling the three sheets. (*Product Enginering, Jan. 13, p5*)

"Top management frequently does not fully believe in advertising; and does not understand the true nature of advertising management nor the function of an advertising agency."

Advertising Must be Managed

- **The American influence shows everywhere.**
- **Budgets are growing, but planning lags.**
- **Client and agency must work together.**

THE QUOTATION above—saying that management often does not believe in advertising or understand the advertising agency—is a major conclusion of the "Frey Report," a recent study of advertising agency services in the U.S.A. that has become a hot topic of conversation along Madison Avenue, New York City's "advertising row."

Such an indictment would make business news anywhere. It is even more news-worthy because American management is generally conceded to be the greatest believer in advertising and advertising agencies—to the tune of a total annual advertising expenditure of some $10,000-million during 1957.

The Frey Report comes at a time of change and restless activity in the advertising world; indeed, it is symptomatic of that restlessness. New markets, new products, new tastes are appearing everywhere. Everywhere management men are facing new marketing problems. And they are turning to the advertising agencies for help in both their domestic and foreign marketing.

This fact is not lost on the advertising agency owners. The American agencies are expanding in almost every market center of the world, setting up their own shops or joining forces with local advertising practitioners. Meanwhile, foreign advertising agencies are invading Madison Avenue, and correspondent arrangements are being established between agencies of many lands.

This expansion is creating strains and difficulties, in the agencies themselves, and in the advertising departments of business corporations who use them. It adds urgency to the need for a better understanding of the subtle, frequently-changing, relationships between the client-advertiser and the advertising agency.

I. Some Solid Concepts

To understand the advertising agency and its function, it is necessary to recognize that U.S. advertising practices have had a tremendous impact around the world. Much of what is said about American agency problems applies, in varying degrees, elsewhere.

Some people think of the "American" approach as brash, aggressive, and in bad taste—and at worst, all of these things. But behind the execution, there are some solid concepts.

When British television decided to accept commercial announcements several years ago, there was much discussion over the use of "American-style" commercials with a direct sales appeal. Many Britons predicted they would never work. But when they were used, the results were a clear victory for the "American" approach.

To be sure, the advertising was polite and low-keyed, with less "buy-now" exhortation than television advertising in the U.S. (though note that the "soft sell" approach is now becoming more popular in the U.S.A.)

These commercial announcements with a direct sales appeal proved more popular with viewers, and they sold more goods than commercial announcements with no direct appeal.

The point is this: "American" methods have found favor because they have proved successful. Bror Zachrisson, a Swedish advertising agency executive, puts it this way:

American advertising succeeds because of its "emphasis on stressing the essential point and its practical way of arguing important things." Advertising is argument, concludes Zachrisson (lamenting that Swedish is not a particularly argumentative language).

Many advertising men in the U.S. go a step further. Advertising is education, they say. It makes people aware of a higher standard of living, and plays an essential role in fulfilling man's needs. One crusader for this point of view says: "Mass production demands a mass market. And mass selling is possible only through mass education."

Advertising, of course, is now considered only one aspect of mass selling. More and more, the advertising manager and the advertising agency are becoming involved in the many other activities that

can be lumped under "Marketing."

"If you press far enough," says an American agency man in *Printer's Ink*, the advertising weekly, "you will find yourself talking not only about advertising and merchandising and market research, but also about product pricing and planning, selling efficiency and techniques, distribution and sales analysis. In fact, you will even have to talk about the client's corporate structure—his capital investment and expenditures. And his all-important 10-year plan."

II. Role of the Agency

Perhaps some day such an all-encompassing marketing relationship will be common between advertisers and advertising agencies. But for the present, most agencies would settle for more cooperation in performing their accepted functions:

—Developing and creating advertising material.

—Planning campaigns and advising on selection of media (newspapers, magazines, radio, etc.).

—Placing campaigns at the best possible prices.

—Reporting on competition.

—Researching markets for the company's products.

Many companies have tried to set up their own departments to handle these matters. Sometimes these departments work out well. But sooner or later, most companies seek the services of an outside advertising agency. Why? Without mincing words, an advertising manager with experience on both sides of the question says that company-run "house" agencies "tend to be staffed by amateurs; they lack objectivity, they are usually dominated by one strong personality, and it is difficult, if not impossible, to disagree with the client."

Conversely, an outside agency—though far from perfect—usually has a broader viewpoint and can fight for what it thinks is the best approach to the problem. And, according to informed estimates, the outside agency costs no more than a "house" agency.

III. For Services Rendered

The agency in the U.S.A.—and many other nations—is paid through a peculiar commission

How Advertising Compares

Country	Advertising Volume (1956—U.S. dollars)	No. of Agencies
Argentina	$54,000,000	250
Brazil	$141,538,462	200
Britain	$896,000,000	467
Canada	$532,500,000	110
Denmark	$44,200,000	200
France	$275,000,000	50
Germany	$595,000,000	250
India	$15,750,000	200
Italy	$105,000,000	90
Japan	$204,000,000	(not available)
Lebanon	$1,850,000	4
Netherlands	$75,000,000	75
South Africa	$44,480,000	25
Sweden	$128,000,000	30
Switzerland	$125,000,000	(not available)
U.S.A.	$9,904,700,000	5063
Venezuela	$25,320,000	20

Around the World

How much spending, by which advertisers—estimated by The International Advertising Assn.

Media Breakdown (1956—U.S. dollars)	Leading National Advertiser	Leading Foreign Advertiser
newspapers—$13,500,000; magazines—$12,960,000; radio-tv—$10,800,000; cinema-outdoor—$7,560,000; direct mail—$9,180,000	Siam de Tella	Cinzano, Sterling Drug
newspapers—$59,446,000; magazines—$21,231,000; radio-tv—$42,462,000; cinema—$18,400,000	Cia. Antarctica	Sydney Ross, Lever
newspapers—$257,600,000; radio-tv—$40,320,000; cinema-outdoor—$86,800,000; direct mail—$16,800,000	(not available)	(not available)
newspapers—$43,527,191; magazines—$19,519,298	Canadian Breweries	General Motors, Ford
newspapers—$17,000,000; magazines—$10,800,000; cinema-outdoor—$2,000,000; direct mail, etc.—$14,400,000	(not available)	(not available)
newspapers—$100,000,000; magazines—$80,000,000; radio-tv—$17,500,000; cinema-outdoor—$35,000,000; direct mail—$42,500,000	Perrier	Lever, Palmolive
magazines—$241,000,000; radio—$12,000,000; cinema-outdoor—$54,000,000; direct mail, etc.—$286,000,000	Reemtsma	Unilever, Opel (General Motors)
newspapers—$8,662,500; radio—$1,260,000; cinema—$2,362,500; direct mail, etc.—$8,890,000	Tata Iron & Steel	Burmah Shell, Standard-Vacuum
newspapers—$24,000,000; magazines—$27,000,000; radio—$10,000,000; cinema-outdoor—$22,000,000; direct mail, etc.—$22,000,000	AGIP	Lever, Palmolive
newspapers—$111,000,000; magazines—$11,000,000; radio-tv—$31,000,000; direct mail, etc.—$41,100,000	Takeda Pharm.	BOAC, U. S. Film Pictures
newspapers—$900,000; magazines—$300,000; cinema-outdoor—$350,000; direct mail, etc.—$260,000	National Lottery	BOAC, Tapline
newspapers—$30,000,000; cinema—$1,000,000	Brenninkmeyer	Ponds, Ford, Esso
newspapers—$34,000,000; magazines—$24,000,000; cinema-outdoor—$3,500,000; direct mail, etc.—$67,500,000	Rembrandt Group	Lever, General Motors
newspapers—$56,750,000; magazines—$50,000,000; cinema-outdoor—$9,250,000; direct mail, etc.—$10,500,000	(not available)	Philips, Palmolive
newspapers—$30,828,500; radio—$2,465,400; cinema-outdoor—$4,619,876; direct mail, etc.—$6,566,252	Migros Markets	Bayer, General Motors
newspapers—$3,235,600,000; magazines—$1,326,200,000; radio-tv—$1,780,600,000; outdoor—$199,600,000; direct mail—$3,362,700,000	General Motors	Lever
newspapers—$8,770,000; magazines—$700,000; radio-tv—$11,000,000; cinema-outdoor—$1,750,000; direct mail, etc.—$3,100,000	Cerveceria Polar	Royal Dutch Shell, Creole Petroleum

Plan for Extra Profits

WITH Airtemp

AIR CONDITIONING

Planning to expand or modernize your plant or office building? Make sure to include Airtemp air conditioning. You'll find profits increase along with efficiency, thanks to the cool working climate Airtemp creates.

Actually, it costs surprisingly little to add air-conditioned comfort to your plant. And only Airtemp offers such a wide choice of models to fit every need . . . from compact room air conditioners to giant central stations big enough to cool a skyscraper.

Why not contact your nearby Airtemp distributor soon? He'll be glad to work with your architect or contractor to provide the Airtemp system that best suits your needs. If you prefer, just mail the coupon below.

MAIL COUPON TODAY

MD-38

Please send me complete information on Chrysler Airtemp air conditioning.

NAME_____

ADDRESS_____

CHRYSLER CORPORATION • EXPORT DIVISION • DETROIT 31, MICHIGAN, U.S.A.

system that is rooted in the early history of advertising. Today's agency evolved from "space brokers" who sold newspaper advertising on a commission. To sell more advertising space, they began to prepare the advertisements as well.

Agencies are not paid directly by their clients at all. The standard method is for the agency to collect a percentage of the advertisers payments to media for advertising placed—from the medium itself. The standard percentage is 15%.

Where this standard does not apply, agencies are trying to make it standard (except in the few places where agencies get more than 15%). In some places (Italy is an example) agencies must bargain with the client on one hand, media on the other, and all the while doing battle with space brokers who try to get their clients to buy through them.

But even where it is standard, the 15% "commission" system is becoming a highly controversial subject in advertising circles. Many advertisers — particularly big ones—consider the system unfair. They say that media costs, based on the size of the audience or readership, have no relationship to the value of the agencies' services. They would pay 15% less for media placement, and pay the agency a fee based on its "real" services.

In a recent book (*Advertising as a Service to Society;* Macdonald & Evans Ltd.; London,), British advertising executive John McEwan proposes that advertising be handled by three separate organizations. There would be fee-earning consultants for policy, planning, creative design, writing and recommendations. There would be space brokers paid a commission by the media. And there would be contractors—paid on a fee scale—to handle the production work on advertisements.

But agencies, by and large, are happy with the commission system. For one thing, it guarantees that the agency will profit in direct proportion to the client's advertising budget.

For another, many agencies charge fees in addition to the 15%, and some ask for a retainer or a guaranteed annual minimum com-

mission. Local practice varies. In some places, there are seldom extra charges. But current trends are shown by the fees charged by U.S. agencies (as broken down in the Frey Report):

—**Publication copy:** No charge above the commission.

—**Copy for direct mail and point-of-purchase displays:** In about equal numbers, U.S. agencies make no charge above the commission, charge a flat fee, or work on a cost-plus-percentage basis. (The percentage added to cost figures is, like the commission, 15% in most cases. But many agencies are now adding 17.65%).

—**Finished art:** Almost half the agencies surveyed charge cost plus a percentage; some charge a fee.

—**Engravings and typography:** Cost plus percentage is the main method.

—**Publicity:** A flat fee is favored. But at-cost and cost-plus-percentage arrangements are fairly common.

—**Market research:** A flat fee is favored by most U.S. agencies. But a number of them work on a cost-plus-percentage; and some do market research at cost.

IV. Working With the Agency

The man who deals directly with the agency is usually the company's advertising manager (in small companies, he is more often than not the sales manager).

The Frey Report says that top management often does not pick qualified men for this post, nor give them adequate authority and responsibility. Often management tries to "second-guess" the advertising manager and the agency.

And the advertising managers, partly for these reasons, "sometimes afford poor liaison between the agency and the company; overemphasize advertising to the point of diluting . . . the overall marketing mix; press the agency for services not really needed, and fail to evaluate agency services systematically."

A successful relationship between an agency and client is marked by confidence. Such confidence is more likely to exist if the agency has proved itself—if it has a history of success.

But to prove itself, an agency must be able to talk convincingly of its client's products. Researchers and copy writers need to talk to people who developed the product and who sell it; indeed, they should occasionally step behind the counter and sell it themselves. Account executives (the agency man specifically in charge of the client's program) should know sales figures and marketing strategy intimately.

All too often, the Frey Report remarks, management "fails to give the agency the information it needs." Without adequate information, advertising success is largely a matter of luck.

Remember, too, that management-dealer problems—credit policy, product service, etc.—have a direct bearing on the agency's work. Most of these problems are outside the control of the agency, and they require close cooperation between agency and company researchers (whether they are called that or not). And it is just such information, plus sales figures, that is often withheld from advertising agencies.

Companies can help agencies too by coordinating selling activities with advertising. Some advertising men say the agency should pattern its themes on the company's sales presentations; others say that the agency's advertising messages should be incorporated into sales presentations. Either way, there is plenty of room for more cooperation in this area.

But most of all, the client must understand advertising and advertising men.

Advertising has a cumulative ef-

Advertising: International Approach

ADVERTISING is becoming a profession, not just an occupation. Rigid requirements have been set up for advertising "practitioners" in Britain. Universities are beginning to teach courses in advertising and marketing. Associations of advertising men are active in many countries.

Advertising today is as international as commerce. And as in commerce, there is great need for internationally accepted practices, procedures, and ethical standards for advertising.

The International Chamber of Commerce (MD, May '57, p11) has led in this field.

ICC has done valuable research in ways to standardize research methods and reporting on outdoor advertising, newspaper, and cinema audiences. It has encouraged the development of advertising research foundations, and investigated the role of the advertising manager. It offers an international conciliation service for settling advertising disputes.

And ICC has published a Dictionary of Advertising and Distribution Terms with equivalents in eight languages; Advertising: Conditions and Regulations in the Various Countries; a Dictionary of Marketing Terms (all on sale by ICC agents or through ICC headquarters: 38 Cours Albert I, Paris VIII).

Perhaps the ICC's greatest contribution is the Code of Ethics drawn up by its International Advertising Commission.

The Code is based on the principle that "the success of advertising depends on public confidence. Hence no practices should be permitted which tend to impair such confidence."

Getting down to specifics, the Code condemns imitating trade marks or advertising devices, making false and misleading claims, disparaging competitors, exaggerating the probable effects of an advertising campaign. The Code calls for clear and full statements of rates.

This Code has been adopted by the leading advertising associations in 14 countries.

It has also been endorsed by the International Advertisers Association, a young organization that is promoting good advertising around the world. The IAA makes an annual survey of advertising expenditures, agencies, and advertisers in all countries, and holds an annual convention to discuss the problems of the advertising man. Headquarters: 45 E. 45th Street, New York, N. Y., U.S.A.

fect, and miracles cannot be expected overnight. Most successful campaigns are laid out months in advance, and carried through. Campaigns that start and stop erratically are seldom successful.

The client, of course, usually has the final say on media schedules, copy, and art work. Here is where a lot of friction develops.

Many businessmen—even advertising managers—tend to react as consumers as well as businessmen. They criticize the agency's work from the standpoint of their personal likes and dislikes. The sad comment, often heard in agency circles: "In this business, everybody thinks he is an expert."

But perhaps of all sources of friction, the most critical is the advertising budget.

Many companies simply allot "extra" money for advertising. Others take a fixed percentage of sales revenues—based on the past year or a projection of the forthcoming year—and try to organize an advertising program to use this money in the most effective way. But agency people call this the "easy way."

It is much better, they say, to use the "task method." In other words, you start with the idea of a job to be done; then you make a budget to meet this objective:

—Where do you want to go?
—What forces will you need?
—What will it cost?

Actually, the "task method" is not so much a method as a point of view, a basic approach. Budgets are not made in a vacuum—there are plenty of other demands on company resources, as even the most dedicated believer in advertising knows.

In many cases, such "task force" budgets are reviewed and trimmed, adjusted, or even rejected by finance committees or other guardians of the company coffers.

If the "task" budget is changed, agency people say it is better to change the program—and the goal—to fit the new budget. They warn against trying to carry out the same program with inadequate money.

However the budget is arrived at, it still can be converted to a percentage of sales for controlling and allocating budgetary expenses. (The percentage spent on advertising varies widely according to the nature of the product, size of company, competition, etc. The "average" is around 5%).

And even with the task force method, it is often a good idea to use a ratio of sales to advertising as a "kick-off" point for discussing the budget.

The best approach is to treat advertising the same way as capital investment—consider an agency's program the same way you would consider buying new production equipment.

In working with agency personnel, remember that they consider themselves professionals. And in so far as they deserve the classification, they should be treated as professionals—as men who know their business.

V. Evaluating the Results

It follows that professionalism is the best criterion for selecting and judging an agency. Professionalism means a business organization, talent, and depth—a competent art, copy, media, research, and planning staff.

Judging performance, however, is not as easy as you might think.

There is certainly no lack of evidence that advertising has an impact—and does sell goods.

But are sales alone an adequate criterion of advertising impact? Often they seem to be—when sales rise dramatically during a campaign. On the other hand, you can't use sales to measure the impact of campaigns aimed at public relations or "image building;" for primary producing industries, the ultimate consumer is often not aware of the company's product.

In highly competitive consumer goods fields—soap, for example—many companies advertise on faith and past performance—they know their share of the market would be hurt if advertising were cut.

Still, they are faced with the task of evaluating advertising. The trouble is that many factors enter into the ultimate sale of a product—salesmanship, distribution, and, not least of all, satisfied customers.

These consumer-goods manufacturers are depending more and more on consumer research—actual interviews with a representative cross-section of customers—to determine the impact of advertising. They say that effectiveness is measured by awareness of the product, brand names, advertising themes, and acceptance of the advertising claims.

Unfortunately, such studies are usually too expensive to be considered by small and medium-size advertisers.

Another approach—especially suited to advertisers in specialty or industrial markets—is to take readership of the advertisements as a measure of advertising effectiveness. In the U.S.A., there are now a number of independent or-organizations that make regular readership surveys for publishers, agencies, and advertisers.

But it is difficult to make readership surveys unless there is accurate data on the media audience. The work of the agency—and the task of evaluating advertising—is simplified where there are audit bureaus of circulation to check on the circulation of magazines and newspapers—such as the Office of Certified Circulation in Latin America, which is now struggling for recognition.

Such bureaus are usually a cooperative venture of advertisers, agencies, and media.

Media studies are one of the basic tools of the agency. Media data is now available on just about every country in the world. But often such data is based more on opinion than fact.

There is a great need in this area for cooperative research projects—with or without the cooperation of media.

Many companies are forced to rely on their salesmen for an evaluation of advertising. Does it help them to sell? Some valuable information can be gathered this way, but it is well to remember that opinions, at best, do not make very reliable criteria.

Besides the impact of advertising, an advertiser must be concerned with market research. Agency men claim that market research can be done in any country in the world.

Remember, however, that population statistics are only the beginning. In the end, market research must plumb product preferences, patterns of consumption, attitudes toward advertising, and why people buy. ●

● YOUR MANAGEMENT READING

Management Digest's editorial staff here again does the "worthwhile reading" for you to save your time. For the following literature, please write on your company letterhead directly to the address given, mentioning Management Digest.

"Study Abroad"—That is the title of a unique new United Nations handbook listing international scholarships for college and post-graduate study in 83 countries. Information on where to apply and eligibility requirements is included. 836 pages, $2.50. (Your UNESCO Sales Agent, or write to UNESCO, 19 Ave. Kleber, Paris 16, France.)

Handy Handbooks—"The Materials Handling Handbook" covers methods of analyzing handling problems, procedures and techniques for effective operation, systems design, and selection of M-H equipment. 1750 pages, $20.00. . . . "The Production Handbook" contains a wealth of practical information on modern industrial policies, organization, methods, and operations. 1700 pages, $16.00. (Ronald Press Company, 15 East 26th Street, New York 10, New York.)

Business Yearbooks—You will find "The Statesman's Year Book" a handy reference guide to every country. Government, area and population, finances, production, commerce, communications, money, banking and credit are some of the subjects covered. 1600 pages, $8.50. (St. Martin's Press Inc., 103 Park Avenue, New York, New York; or Macmillan & Co. Ltd., 1015 St. Martins Street, London WC 2, England). . . .The "Business Year Book for 1957" is a statistical guide to Canadian markets. It reports on cities and towns, population, tax rates, manufacturing, etc. 198 pages, $3.00. (The Financial Post, 481 University Avenue, Toronto, Ont., Canada.)

Management with Mathematics—"Linear Programming and Economic Analysis" is a complex book that shows the relationship between linear programming—the input-output theory—and standard economic analysis. 544 pages, $10.00. (McGraw-Hill Book Company, 330 West 42nd Street, New York 36, New York.)

Pay Problems—"Incentive Payment Systems" is a review of research and opinion on the effects of financial incentives on worker productivity. 232 pages, 21s. or $2.94. (Staples Press Ltd., Staples House, Mandeville Place, London W 1, England). . . . "Managing to Beat Inflation"—written by the editor of the British publication BUSINESS—is a detailed study of executive pay, and the effects inflation and high tax rates have on the manager's standard of living. 216 pages, 18s. or $2.52. (B. T. Batsford Ltd., 4 Fitzhardinge Street, Portman Square, London W 1, England.)

Bulletins from Industry—Trecker Aircraft will tell you all about its twin-engine amphibian "The Gull," handy for business personnel or light cargo. (Trecker Aircraft Corp., General Mitchell Field, Milwaukee 7, Wisconsin). . . . A new movable office wall system called "Horizon" is described in a six-page brochure. (E. F. Hauserman Co., 7516 Grant Avenue, Cleveland 5, Ohio). . . . "Pertinent Facts on Materials Handling" suggests how to reduce man-hour costs and improve over-all plant efficiency. (Towmotor Corp., 1226 E. 152nd Street, Cleveland 10, Ohio) . . . Bulletin 51B8606B describes Allis-Chalmers' full line of Type FOD weather-protected motors for industrial use. (Allis-Chalmers International, Milwaukee 1, Wisconsin.)

WORKING WITH HYPERTENSION

New drugs can do much to relieve "hypertension"—high blood pressure.

The danger in hypertension: Over a number of years, the heart tends to enlarge, while arteries may harden and become partially obstructed.

When a doctor takes blood pressure, he measures the force exerted by the blood against the artery walls. There is a high and a low reading. When the low pressure consistently goes above 100 (millimeters of mercury in a column), blood pressure is generally considered above normal.

Heredity, abnormal body chemistry, and emotional tension can all play a part in the disorder. One thing is fairly certain: If a business executive habitually reacts to the stresses of his job as though they were a series of emergencies, he is in danger of developing hypertension.

Many people with mild hypertension have no obvious symptoms at all, others complain of headaches, shortness of breath, and dizziness.

Treatment depends on the individual patient. Drugs such as reserpine and chlorothiazide merely arrest the ailment, day to day and week to week. That is a great benefit to sufferers, but it is not a cure.

For the mildly hypertensive businessman who shows anxiety and stress, some doctors will prescribe relaxing drugs, including tranquilizers, to be taken sparingly before a tense situation is expected—such as a speech, an important staff meeting, a crucial negotiation.

In any case, if you are in this "mild" class, the doctor will probably suggest a general slowing down, with extra rest, plenty of short vacations, moderate outdoor exercise, maybe elimination of excess salt in the diet.

Coffee can make some people nervous, but doctors usually do not insist that mild hypertensives cut it out. Smoking increases the blood pressure of some patients, but doctors differ widely on abstention. Alcohol does not raise blood pressure. In fact, doctors often recommend a cocktail in the evening because the patient sits quietly for 20 minutes to enjoy it.

FAIR IS THE SEASON

The Brussels World's Fair (April 17 to October 19) is shaping up as a worthy successor to the New York World's Fair, held 18 years ago. Forty-five countries will have their best foot forward.

If you are unable to get a hotel reservation, your best bet may be the two motels operated by Logexpo, the Fair's housing committee. But remember that there are two. The Eden Motel is the one with first-class hotel service and private baths. Cost: About $12.50 per night for two. The other, Expo-Motel, is more modest (about $9.00), with no private baths but running water in each room. Both have twin beds in each room.

If you arrive with no reservation, Logexpo is still your best bet. It is setting up a card index file of all available space.

If you are planning to attend the Milan Samples Fair (April 12 to 27), don't forget to get a Visitors Card from a travel agent or Italian consul.

A Visitor's Card entitles you to a free passport visa to Italy; travel reductions on Italian railways and on some foreign transport lines; and services of a guide-interpreter for two hours. Present the card at the Foreign Visitors Reception Center.

Check page 16 in this issue for a list of other important fairs and exhibitions during the months to come.

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